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Treatment of Urethral Fistula*

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Definition: Urethral fistula may be defined as an abnormal opening from the urethra to the outer surface of the body or to another hollow organ; for example, the rectum. The management and cure of this condition is somewhat difficult and all those who have served interneships in charity hospitals are familiar with the fact that such cases often lie around the wards of the hospitals for months, awaiting the time when some of the staff surgeons take an interest in them and finally cause them to be healed up. A few years ago it was my experience to have three or four of these cases suddenly assigned to me in University Hospital so that I was forced to study out the necessary procedures which caused them to recover. Since that time I have maintained a keen interest in urethral fistulae and wish to present today some guiding principles by which they can be managed.

CLASSIFICATION

A convenient classification, according to location and origin, is as follows:

1. Simple urethrol fistula, occurring either on the under surface of the shaft of the penis or in the perineum. In this the opening is merely a straight channel leading from the urethra to the outside of the body. In some cases it is single and in others it is multiple, having several openings widely scattered over the perineum but all leading to a single opening in the urethra. It is commonly seen following urinary extravasation.

2. Urethrorectal fistula; that is, an opening from the urethra leading into the ampulla of the rectum. The commonest cause is injury to the rectum while doing perineal prostatectomy.

3. Urethrorectoperineal fistula; that is, an opening leading from the urethra into the rectum and also to the outside of the perineum. Sometimes numbers two or three are complicated by other channels running laterally or upward on either side of or through the scrotum.

4. Prostatic fistula; that is, there occurs a leak in the prostate which extends downward and backward, surrounding the rectum.

ETIOLOGY

The causes of urethral fistula may be summed up under three general headings:

A. *Trauma,* of which there are four types:

1. Direct blows on the perineum, rupturing the urethra and causing urinary extravasation with abscess formation. This is usually followed by necrosis or incision of the perineal tissues, thus causing the fistula.

2. Fractures of the pubic arch, causing a spicule of bone to penetrate the urethra with the same result as in (1).

3. Operative sequellae, as when the urethra or both urethra and rectum are

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opened while doing perineal prostatectomy or other surgery of this region.

4. Instrumental accidents, as when the urethra is torn while passing a sound or other instrument through it.

B. *Infection,* such as periurethral or prostatic abscess, occurring during the course of a gonorrheal urethritis. Occasionally such abscesses are non-specific and are seen in old or debilitated individuals.

C. *Syphilis, cancer, or tuberculosis.*

Pathological Process

It is well known that there are layers of dense fascia in the perineum and surrounding the penis. Buck's fascia is the name given to the layer of fascia which surrounds the penis and extends backward as far as the scrotum. Colles' fascia covers the entire scrotum and extends backward around the urethral bulb up to the membranous urethra and sphincter ani. If a diseased process starts within the urethra and ruptures out through the mucosa and muscular coats of this tube, the first arresting structure is Buck's fascia, providing the process is along the shaft of the penis. Here it meets a resistance which lasts for some time, allowing the infection to spread up and down the length of the penis for a distance, thereby creating an abscessed cavity inside Buck's fascia and outside of the urethra. Eventually the swelling becomes great enough that it is either opened by the physician or ruptures spontaneously and thus is left a fusiform channel, small on the outside and small in the urethral wall but large in the middle. If the process begins in the membranous urethra, practically the same thing occurs except that the spread in the midline tissues is brought about by the resistance of Colles' fascia instead of Buck's fascia and the abscess forms and spreads through and around the bulb of the urethra. If the process begins in Cowper's gland or in the prostate, it is not confined by Colles' fascia but distends the tissues behind and below this structure and appears alongside the anus or sometimes spreads and goes on both sides of this, thus pointing in one or both ischio-rectal fossae. In some cases of prostatic abscess or of abscess of Cowper's gland where undue traumatism is employed or where the infection is extremely violent, there may be so much tension on the wall of the rectum that it becomes gangrenous and an opening appears in it as well as in the urethra. I have seen one such case where there was an opening into the rectum, thence into the urethra, as well as a lateral channel which went around the penile structures. One could put a sound into the opening in the rectum and pass it all the way up to the skin just inside the right anterior superior spine.

Treatment

The processes used in the treatment of these fistulae may be summed up as follows:

1. Be sure that the urethra is wide open; that is, that all strictures have been dilated.

2. Divert the urinary flow either by a retention catheter or by a supra-pubic drain (preferably the latter).

3. Open all channels down to the one urethral opening in the perineum. If a channel passes through the scrotum, pass a probe through it and open the skin on each side up to the point of entry into the scrotal tissues. This will allow all the urethral drainage to come from one central point, and the tract beyond this will heal.

4. Saucerize the fistulous tract.

5. If the fistula is rectourethral, dissect the perineum, close the opening in the rectum, and leave a large rubber tube coming out through the rectal sphincter for a period of about ten days so that all gas will pass out without distending the newly made suture line, thus allowing it to heal.

In carrying out these procedures, if the fistula is on the under side of the penis, it is merely necessary to remove the epithelialized lining and sew up the urethra as well as the skin on the outside. If this is done and a retention catheter left in the bladder or a suprapubic drain placed, the fistulous opening will usually heal without difficulty providing the patient will cooperate and will not allow the wound to become infected or unduly irritated by attempting to pass urine through the urethra. If the opening is in the perineum and is a simple urethral fistula, all that is necessary is to saucerize the skin and superficial

fascia so that the wound is an inverted cone instead of a fusiform cavity. Usually in such cases the fistula will heal without further trouble even though the urine is not diverted. In case such a procedure does not bring about healing, the proper thing to do would be to drain the bladder suprapubically, repeating the saucerizing process. The wound will then heal. In the case of a rectourethral fistula, Young's transverse perineal incision should be used, dissecting down to the opening and closing the rectal mucosa by ordinary chromic catgut sutures. The sphincter should be then dilated and a one inch rubber tube about six inches long placed in the rectum and fastened with a suture to the skin of the anus. A second layer of muscular tissue is then brought together over the rectal opening and a suprapubic cystostomy is done, allowing the urethra to remain at rest while the rectum heals. This usually takes about ten days. In one case I sewed up a large opening and it healed nicely until the rectal tube came out. Healing then ceased, leaving a very small opening instead of the large one as before. I then dilated the rectal sphincter greatly and sewed the opening together from inside the rectum with a small needle holder and needle. The tube was again placed and the patient made an uneventful recovery. Two weeks later I passed a sound into the urethra and found it slightly strictured but it dilated without difficulty. In another case I had a perineal fistula with several openings, one of which ran forward from the bulbous urethra through the scrotum and opened on the anterior side of the scrotum. I passed a probe through the opening and felt it subcutaneously on the posterior side of the scrotum, cut across it, then opened the channel from there on into the urethra. Meanwhile I left a silk suture running through the scrotum until the skin of the perineum had healed posterior to it. I then removed this suture and the scrotum healed spontaneously because it was not being fed by a discharge of pus or urine from the original tract. The cases of combined rectal and perineal fistulae may be handled in identically the same manner: that is, dissecting the perineum by Young's transverse incision, closing the rectum, leaving a tube in it to carry off the gas while the incision heals, and diverting the urine either by a retention catheter or suprapubic drain. These fistulae usually take about three or four weeks to heal. During the first week the patient should be given no food; during the second week only liquids or concentrated foods which leave little residue. After ten days, the tube can be removed and a daily warm soda enema given.

Low Back Pain in Relation to Urology*

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On January 14, 1937, there appeared in the Daily Oklahoman a column entitled "Aches." The writer discussed backache which he termed "Sacro-iliac." Some of the statements he made are: (quote)

"Sacro-iliac is an ailment of the back and the beauty of it is that it doesn't show. When a workman applies for compensation because of this ailment insurance companies can't prove that he doesn't have it—even the X-ray won't tell.

"A blow, strain or twist may injure the sensitive muscles around the joint and the only evidence of the ailment is the victim's statement of pain.

"Records of the state industrial commission show an average of 125 back injury claims filed a month and insurance companies estimate about 75 per cent of these are "Sacro-iliac" claims—about 95

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cases per month. Oil field workers and truck drivers are the most common victims." [1]

It is the purpose of this paper to show that backache is seldom due to injury, but more often due to some genito-urinary tract pathology.

Anatomically the sacro-iliac joints are not true joints. They consist of two irregular, congruous joint surfaces. The congruity tends to increase their stability.

They are very large and very firm, and are held together by powerful ligaments and *not by muscles*, thus possessing but very little motion. They are kept securely in place by the "grip" due to the irregularity of the opposed surfaces of the two sacro-iliac articulations. Therefore, the human pelvis presents a mechanism the principal requirement of which is stability and not movement. [2-3-4-5-6]

The sacro-iliac joint is considered the strongest joint in the body, not only bearing the weight of the individual but great loads imposed upon it.

Sometimes before old age the joint is replaced by bone. If great force is applied to the pelvis and strain is placed upon the posterior sacro-iliac ligament they *may* rupture, but are more likely to withstand the violence and there be produced a tearing away of a portion of the bone into which the ligament is inserted.

Marked ecchymosis, swelling and tenderness over the sacro-iliac region are evidence of the tearing of the ligaments, or the fracture of the bones.

The sacro-iliac ligaments derive their innervation from the first and second sacral nerves—hence, referred pain from a sacro-iliac lesion is distributed over the gluteal region, posterior thigh, posterio-lateral calf and lateral border of the foot. This distribution of pain is commonly referred to as "sciatica" and is present in the great majority of cases of lesions of the sacro-iliac joint. [7-8]

The genito-urinary tract plays a great role in the etiology of back pain. In fact, it is one of the most common complaints for which patients consult the physician.

There is often present a combination of *urological, gynecological, psychogenic* and *orthopedic conditions.*

The most frequent direct cause of "low back pain" in women is pelvic congestion, and any pathology within the pelvis producing this condition is the causative factor in 85 per cent of all gynecological cases. [10-11-12]

According to Crossen [13] pain across the sacral region is a common accompaniment of genital lesions; any inflammation or growth involving the pelvic connective tissue or causing intra-pelvic pressure may cause persistent, severe backache.

Folsom [14] calls attention to low backache in women due to reflex pain from the urethra.

The psychogenic factor plays a large part in low back pain. Kelly [15] claims a large group with neuresthenic or a pure neurotic basis may account for the whole complaint or at least for the exaggeration and protraction of symptoms from some trifling injury. The somewhat puzzling group labeled coccydinia probably falls into this class.

The psychogenic origin is also sighted by Clancy [16] showing cases in which removal of the neurosis results in recovery.

Allison [17] sums up the causes of backache from the standpoint of the orthopedist, listing general debility, mental and physical fatigue first; gynecological and genito-urinary lesion second; and strain and injury fifth, in a list of 15 causes.

The majority of patients with genito-urinary lesions refer to their disability as a "backache" and not a back pain. These conditions, according to Kutzmann [18] are grouped in four types, namely; (a) localized, (b) radiating, (c) referred and (d) metastatic.

Localized pain is confined to the region of origin. In this type is found the true kidney pain; it is located particularly in the flank, usually at the level of the first to third lumbar vertebra. Radiation does not usually accompany a true kidney lesion, since there is no path of transmission. Exceptions have been noted as in the case of reno-renal reflex where the pain is referred to the opposite kidney. Renal pain is of a dual character, due to the fact the capsule of the kidney and the pelvis have separate innervations. [18-19-20-21-22]

The characteristics of a radiating pain is spasmodic and colicky. This type of back pain is caused by the alternate distention and muscular spasm of the ureter and kidney pelvis, beginning in the lumbar region and radiating downward and anteriorly into the groin, and genitalia, occasionally as far as the knee.

The principal causes are: calculi, blood clots, kinking of the ureter and particles of new growth. (18-23-24-25)

Referred pains ordinarily have no localizing or radiating character from the point of origin, but are felt at a distance in various regions along the course of the nerve fibers.

This type of pain is intermittent or continuous and may present a dull dragging or an aching sensation. (26-27-28-29)

Metastatic type of pain usually has its origin as a focal infection in the genito-urinary tract. In the sacral region the most frequent cause is a prostato-seminal vesiculitis, and the relationship of this to some orthopedic problem is c o m m o n. Namely; involvement of one or more joints with the prostate as a focus of infection. (30-31-32)

Any one who keeps the genito-urinary tract in mind when attempting to find the cause of backache knows that it is one of the chief sources, if not the most common, cause of backache. Inflammatory changes in the prostate and vesicles is the cause of backache in many cases. The complaint in practically every case is sacral disability. The pain is often referred down the course of the sciatic nerve, occasionally to the feet. (33) Pain may follow the pudendal n e r v e s in the back along the perineal branches, thus affecting the sacrum, buttox and perineum. This is *frequent* because of the close relation of the roots of these nerves to the sacral and lumbar plexuses.

This diffuse distribution allows pains caused by disease of the prostate and seminal vesicles to be referred to any part of the body below the diaphragm. (34)

We must continually bear in mind that branches of the nerves that supply the sacro-iliac joint also extend to the prostate and seminal vesicles, namely; the tenth, eleventh and twelfth dorsal; fifth lumbar and first, second and third sacral supply these areas.

In view of the development of compensation laws, infection of the prostate and seminal vesicles is assuming increasing importance, particularly so in reference to the "sprained back."

Pain in the back and groins is a common complaint, as pointed out by Wesson (35) and is often diagnosed as sprained back, and recorded as such, instead of prostato-seminal vesiculitis and its sequela.

Pugh, (36) states that he believes there are millions being paid in compensation insurance for gonococcal infection of the prostate and seminal vesicles.

The injured back holds an enviable record as refuge for malingerers. The so-called sacro-iliac sprain which causes so much litigation in industrial injuries is a problem with which we are continuously confronted. Does backache really exist, and if so, is it the result of injury?

Many patients may say, and honestly conclude, that the backache of today was caused from the injury or the work of yesterday.

Numerous writers have stated that backache is curable and belongs in the domain of orthopedics, gynecology or i n t e r n a l medicine, overlooking that of urology. McBee states that a great per cent of backache is of urological nature, both as to cause and cure. (37)

According to Hoffman, "When searching for localization of focal infection in the male, every male beyond the age of 16 must be considered a potential candidate for prostatitis, and no case of suspected focal infection in the male can be said to have a thorough and proper consideration of all possible foci of infection until the prostate and seminal vesicles have proven themselves innocent or guilty." (38)

Treatment: Much can be done for the patient with the backache. Above all he should be assured the protection of a definite diagnosis. Those due to toxemias yield readily to the treatment of the focus, plus general measures. Little things such as flat feet should not be overlooked. (39)

Orthopedic and gynecological conditions can in most cases be relieved by those measures.

Genito-urinary conditions are now known to cause about 75 per cent of backaches. The other 25 per cent are gynecologic, orthopedic or psychogenic. This is definitely proven by the relief secured when genito-urinary treatments are applied. Many chronic backaches have been relieved by dilatation of the ureter. Many have been relieved by dilatation of strictures of the urethra in both sexes. Prostatic massage, systematically done, is very frequently followed by prompt relief from backache — the small, firm but smooth gland often harbors the most virulent infection, which can only be diagnosed by a study of the expressed fluid.

From this it will be seen that the physician must seriously consider the entire genito-urinary tract in studying back pain, especially those uncertain dull backaches which superficially appear to be without apparent cause.

Conclusions

1. The sacro-iliac joint is the strongest joint in the body. So strong are the ligaments that bind it together that the bone gives way before the joint itself opens.

2. Branches of the same nerves that supply the sacro-iliac supplies the prostate, seminal vesicles and rectum. Often this accounts for referred pain to the joint if either is effected.

3. In men 75 per cent of backache is genito-urinary. In women 50 per cent of backache is gynecological—the remainder falling in the fields of orthopedic and psychogenic.

4. There are many drawing compensation for alleged sacro-iliac sprain who have only a prostato-seminal vesiculitis.

5. Psychic conditions are frequently to be considered.

6. Modern diagnostic methods have brought the accuracy of diagnosis of genito-urinary tract lesions to such a degree that in general one can prove or disprove these organs as being the cause of backache.

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Cancer of the Stomach*

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THE DIAGNOSIS: It seems to me that one of the important problems in cancer of the stomach is the early recognition of the condition. A problem which has been emphasized time and again, but very little progress has been made in the past decade as compared with the previous two decades. If we are to increase the number of cases that are operable when first seen, then the clinician must become more cancer-conscious. The so-called typical textbook type of case of cancer of the stomach is all too frequently still the mental picture of cancer of the stomach in the eyes of most laymen and also many members of the profession.

The symptoms of early cancer of the stomach depend to a great extent on its location, its size and whether it interferes with the motility of the stomach. A carcinoma at the pyloric end will cause early interference with motility; whereas if it is located in pars media it may remain silent for a considerable time. This is especially true if it happens to be located on the anterior or posterior margin of pars media or on the greater curvature. A cancer located close to the cardiac orifice will soon interfere with the entrance of food into the stomach.

We must remember that most of the cases of cancer of the stomach occur in a previously well male individual, with practically no previous digestive disturbance. Any digestive disturbance coming in a patient at or past middle life, which persists for one or two months in spite of the usual medication, should have a thorough investigation. The symptoms may often mimic ulcer early in the case. The patient complains of a gnawing sensation coming on at variable periods after a meal, usually several hours, and is relieved to a considerable extent by additional food intake. Later the gnawing distress comes sooner after meals and is more or less persistent all the time. If this is associated with loss of appetite and weight, and progressive pallor, it calls for complete laboratory investigation of the case. The clinician should not wait until he finds a questionably palpable tumor mass or a definitely palpable mass to verify his suspicions. In other cases a progressively increasing pallor and weakness or easy fatigue, without scarcely any digestive disturbance, may be the only early complaint.

In known ulcer cases of long standing a change in the symptomatology, such as persistency of distress in spite of good ulcer therapy, and especially if this is associated with loss of appetite, increasing pallor and weakness, should awaken the clinician's interest and suspect a beginning cancer. Unfortunately in a certain number of cases, especially those located in pars media or the greater curvature, a palpable tumor mass may be the first thing that calls the attention of the patient to the fact that something radically wrong exists. He may have enjoyed fairly good health up to this time, so far as any digestive disturbance is concerned.

Of the various laboratory procedures the X-ray gives us the most valuable help. Gastric analysis, as a rule, does not help us very much as carcinoma may be present when free hydrochloric acid is found. Persistent findings of blood, with positive test for occult blood in the stool, of course gives corroborative evidence.

The X-ray is not alone valuable in locating the lesion but also gives us some idea of its size. The most frequent finding in early cases is the carcinomatous ulcer. The niche, when longer than 2.5 centimeters, is generally to be strongly suspected as a carcinomatous ulcer but must be evaluated in the case, taking into consideration the history and other findings. It is more frequent to mistake a carcinamotous ulcer for benign ulcer than it is to

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call it a carcinoma when actually it is benign. A very large benign ulcer with considerable infiltration in the surrounding area is practically impossible to differentiate and may cause the surgeon to be doubtful, even when he has the lesion exposed and can palpate the same.

In the cases that are more advanced and show considerable filling defect the important question to decide is the extent and location of the lesion, to see if the case might be amenable to surgery. There is no question that the average clinician has taken too gloomy and pessimistic a view of the situation and all too often the case is turned down as hopeless, when an exploratory operation may show the lesion is still localized to the stomach, except perhaps for some palpable lymph nodes along the lesser curvature. These lymph nodes may or may not be carcinomatous and may on microscopic examination prove only to be inflammatory in nature.

All cases in which exploratory operation is decided upon should have adequate preoperative perparation, so that extensive resection of the stomach can be undertaken if the surgeon finds it feasible from a technical standpoint to do so.

The Surgery

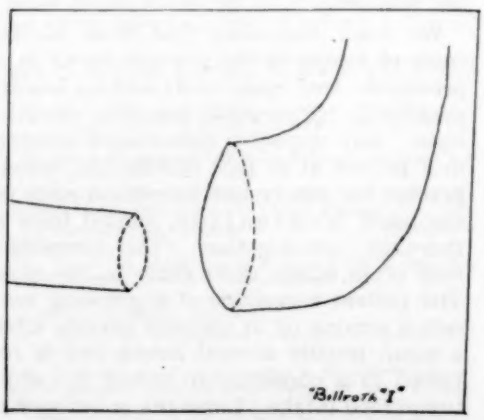
In connection with gastric carcinoma, it is my impression that there are two definite shortcomings in this immediate area.

No. 1. When a diagnosis of carcinoma of the stomach is made, we are too quick to admit that the patient is incurable and we too often fail to offer relief by way of exploration and resection.

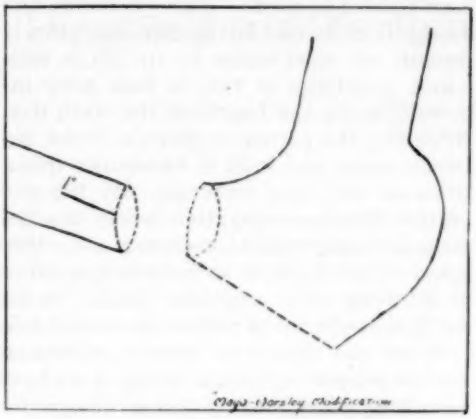
No. 2. When operating these weakened patients, we too often fail to sustain them while the operation is in progress. Most of these patients are frail, toxic and weak. They are poor operative risks. While on the table, they should be receiving intravenously glucose, acacia, or b l o o d. If their blood pressures are falling and they are going into shock during the operation, the operation should, as a rule not be hurried, but should be *stopped*, and the patient revived by work of the anesthetist in forcing CO_2 and oxygen, and by the giving of intravenous fluids mentioned; i.e., glucose, acacia and blood. I wish to place much emphasis on this point.

Patients with carcinoma of the stomach are entitled to an exploration if they can be made operable. Upon opening the abdomen, a review of the stomach itself should be made, then the surrounding tissue should be studied in search for metastases. The lymph nodes about the pylorus, the gastro-colic mesentery, the amount of fixation of the tumor, and then a search is made in the liver. If there is evidence of metastases beyond what can be removed, then, of course, only a gastroenterostomy, in the event of pyloric obstruction, should be undertaken. On the other hand, if it seems reasonably sure that a resection is possible, the p a t i e n t is entitled to this chance, which of course, is his only hope of recovery. When a roomy incision is made and we avoid pulling on the mesentery, I find this operation is no more shocking than any other intra-abdominal operation lasting the same period of time. When a patient recovers from this operation, his health is functionally restored.

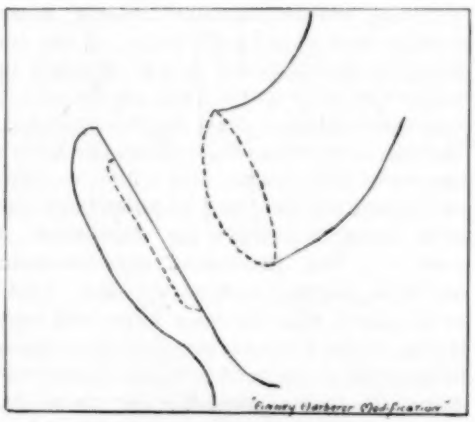
After getting into the problem of cancer of the stomach, I have concluded that the operative technique is by no means as complicated as I have formerly thought. Many of the little features which add to the confusion of a gastric resection are not necessary. The principle is the same as when laid down by Billroth in the eighties. That is, we do an end to end, stomach to duodenum, when we resect only a small amount of the stomach. This is known as the Billroth I procedure; and the modifications which I have adopted for use are being sketched hereunder.



The Billroth I type of Partial Gastrectomy. Billroth of Vienna reported the first case of partial gastrectomy done in 1881. He united the stomach to the duodenum.

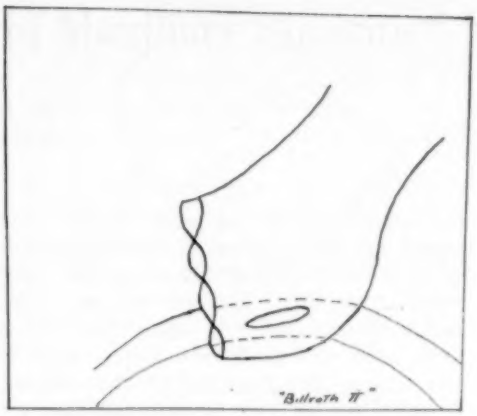


The method of increasing the caliber of the duodenum by splitting its wall back a varying distance was advocated by C. H. Mayo. Horsley advocates closing the lower half of the cut end of the stomach by a purse string suture. This leaves the open portion next to the lesser curvature for anastomosis to the duodenum.



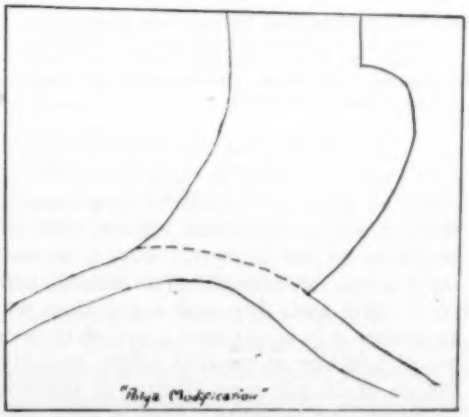
This is merely an anastomosis of the end of the stomach to the side of the duodenum after closure of the end of the duodenum. This can be done only in cases which have a long duodenal mesentery.

When a large portion of the stomach is being removed, as for an advanced carcinoma, an end to side, stomach to jejunum anastomosis is necessary. This is known as the Billroth II procedure.

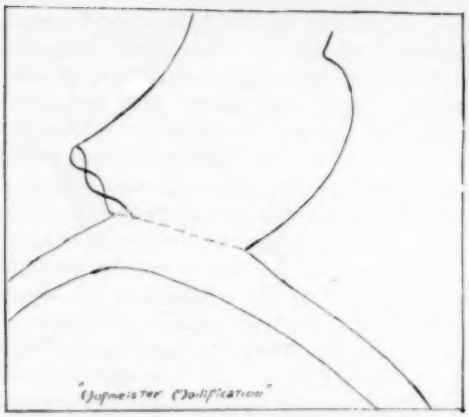


This method is recommended where a large portion of the stomach is removed. The ends of the stomach and duodenum are closed, then a standard posterior gastro-jejunostomy is done.

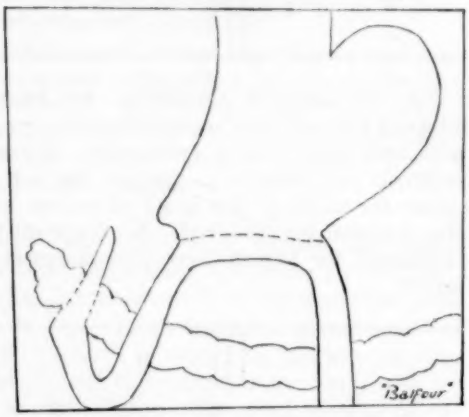
For the sake of simplicity, we have adopted for our use the modifications you will find sketched hereunder. These methods are relatively simple, but adequate for most of the cases of cancer of the stomach encountered. No originality is claimed for any of these procedures selected.



This method is popular. It entails the anastomosis of the open end of the stomach to the side of the jejunum, through the colonic mesentery.



In certain cases the open end of the stomach is very large. Hofmeister, for these cases, advocates closing a portion of this next to the lesser curvature by use of a purse string suture. Anastomosis end to side, stomach to jejunum is then done.



This is merely the Polya or the Hofmesiter done by throwing the jejunum up over the colon, for the anastomosis to the stomach, rather than doing the operation through the colonic mesentery.

Post-operative Management

The patient must be treated about the same as any other patient convalescing from a major operation, except that the stomach is put at rest. For a normal-rized adult, we usually give around 3.000 cc of fluid each day, and a practical way to do this is to administer a hypodermoclysis of 1,000 cc of normal saline and give 500 cc of 10 per cent glucose in the vein morning and evening. This is kept up a few days until the patient is taking fluids by mouth. Sedation is, of course, required and a choice among the more frequently used opiates is made. After 48 hours, the dosage is reduced. If the convalescence is smooth, we start water by mouth in one-ounce quantities at two to four hour intervals, about the fourth to the sixth day. Next day, the patient is given a choice between water and milk in two-ounce quantities at two hour intervals. By the end of the first post-operative week, the patient is taking cooked cereal or some thin gruel of his choice in two-ounce quantities at intervals of two to four hours. In the early post-operative period, we do not hesitate to use the nasal suction apparatus for the purpose of gastric lavage if we have vomiting, distension, or other reason for washing out the stomach. Care must be taken, of course, to throw no strain on the stomach. This can be done by allowing only a small amount of water to be used at a time in the lavage and that to run in by gravity.

Nowhere in surgery does the principle of "suturing without tension" a p p ly more sharply than in stomach work. If the jejunum is anastomosed to the stomach in such a way as to create a pull on the suture line somewhere, a leak can be expected. The swelling subsides on about the fourth day. For this reason, the fourth or fifth post-operative day may be considered the most dangerous from the standpoint of leakage. This justifies a very cautious and slow increase in dietary intake. However, many patients who have had two-thirds of the stomach removed are taking as much as a standard soft diet in ten to 14 days. It seems advisable for these patients to take nourishment at about four hour intervals from the time they begin taking soft diet to the end of a three or four months period. After this, they eat three times a day and have no difficulty. The quantity of stomach removed pretty well prognosticates the future for the patient. The patients who have so much as one-third of the stomach left are pretty likely to get along well. Those who have one-fourth or less must be watched carefully after a year, for the onset of pernicious anemia. As a rule, when a patient has a gastric resection, if there are no metastases, and metastases are often late in gastric cancer, his health is restored.

Diagnosis and Treatment of Maxillary Sinusitis*

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The maxillary antrum, or sinus, is generally the one most frequently involved and probably the most frequently overlooked of any sinusitis. This paper will not go into the anatomy or physiology of the antrum, nor will it discuss any definite surgical procedure except to indicate when surgery is necessary and the type of operation required.

In treating diseases of the antrum, the object in view is to provide ventilation, drainage and to allow proper moisture with the least possible trauma or injury to the sinuses and mucus membrane. Briefly maxillary sinusitis falls into three types, acute, sub-acute and chronic.

It is generally agreed that the antrum is usually infected by direct extension to the maxillary ostium. The principal causes of infection are the common head cold, grippe, influenza, or direct infection from another sinus. However, one must remember that infected teeth, neoplasms, or osteomyelitis of the maxilla can also be responsible for an infected antrum.

The symptoms of an acute antrum are varied. There may be pain, fullness or throbbing of the cheek, pain over the eye on the infected side, pain in the cheek when walking, and particularly when coming down on the heel, and there are usually complaints of frontal headaches. Fever as a rule is present but it may be absent. The patient appears toxic and complains of the nose being stopped up, with or without a nasal discharge. Quite frequently a patient with an infected antrum has a larynxal cough, which disappears in about the same ratio as the infection in the antrum clears up. Trans-illumination does not seem to be of much assistance in diagnosing an acute antrum unless it is positive. Quite frequently an infected antrum gives a negative trans-illumination. X-ray may be of some help but clinical findings in the nose plus the symptoms, are generally sufficient for a diagnosis. In the nose one finds an inflamed mucus membrane with hypertrophied turbinates. After shrinking the nose with ephedrine three per cent and cocaine one per cent pus may or may not be found in the middle meatus, depending on whether the ostium is open or not. If the ostium is open and pus escaping, the patient does not suffer so much from pain and fullness in cheek or systemic symptoms as when the ostium is closed.

The treatment for acute antrum is chiefly systemic. The patient should be put to bed, given large amounts of fruit juices, with a light diet and have the infra red lamp or its equivalent applied over the antrum for about 20 to 30 minutes daily. Care must be taken not to apply too much heat to an acute antrum since the resulting hyperemia might shut off the ostium, thereby preventing ventilation and drainage. The nose should be shrunk with a nasal pack of ephedrine and cocaine. The correct placing of the pack is very important. It should be inserted well into the middle meatus as near as possible to the ostium of the maxillary sinus and left there from 20 to 30 minutes. This packing should be done daily and the infra red treatment may be given while the pack is in the nose.

After five to seven days of this treatment, the majority of the patients recover. If, however, the symptoms continue to persist, it is probably advisable to do an antrum puncture for irrigation.

Speaking of antrum punctures, it is well known that there is considerable difference of opinion among rhinologists in regard to the various ways of entering the antrum. The natural opening has its advantages and it appears to be the most logical method, but due to anatomical reasons, it is im-

*Read before the Eye, Ear, Nose and Throat Section, Annual Meeting, Oklahoma State Medical Association, Tulsa, May, 1937

possible to pass a probe through the opening in 50 per cent of the average cases. In the average chronic case, not complicated by polyps, hypertrophied or hyperplastic mucus membrane, entrance through the natural ostium is indicated. Antrum puncture through the middle meatus is a very dangerous procedure because of the possibility of entering the orbit. It appears then, that the route through the inferior meatus below the inferior turbinate and through the maxillary process is the most efficient and desirable.

Due to the fact that cocaine causes a systemic or general reaction in so many patients it is advisable to discard its use. In many cases a patient has suffered more from the cocaine reaction than from the actual antrum puncture and this has had a tendency to bring the antrum puncture into disrepute. Pontocaine two per cent, or larocaine 10 per cent will give the same local anesthetic action but without the dangerous reaction which cocaine may give.

The acute antrum is irrigated with about a pint of normal saline solution every four to five days until the thick pus is eliminated. Normal saline solution is used rather than a strong antiseptic or astringent because if there should be a mishap and the fluid be injected into the tissues there would be no dangerous results. Strong antiseptic solutions also have a tendency to injure the tissues and inhibit the action of the cilia, which would hinder the recovery.

After the puncture and irrigation, before the needle is withdrawn, an injection of five to six cc of ephedrine one per cent in normal saline solution is put into the antrum and left there. It has been found that ephedrine at this strength (one per cent) does not injure the cilia or mucus membrane and instead, when left in the antrum is distinctly beneficial in keeping the ostium open. It has been noticed that when after one or two irrigations the pus begins to clump and to take on a rusty color, one can reasonably assume that the antrum will recover shortly.

Before leaving the acute antrum, it might be mentioned that, if possible, an antrum is never punctured during the vascular stage of an acute attack. It may, however, be necessary in some cases to make a window into the antrum below the inferior turbinate if the antrum puncture does not relieve the acute condition readily.

To diagnose the sub-acute stage of sinusitis is slightly more difficult than the acute. There is generally a history of head colds, a stopped up nose at times, and the patient is troubled with headaches, as a rule frontal. He also complains of a post-nasal drip and of blowing out large quantities of pus from the nose. There may be a cough or hoarseness and in general the patient feels below par and can not snap out of his cold. On examination of the nose, one finds the mucus membrane congested and the turbinates, particularly the inferior turbinate, hypertrophied. There may or may not be a slight discharge of pus in the middle meatus, depending on the potency of the ostium and the amount of pus in the antrum. In most case there is a considerable amount of pus in the middle meatus. Posterior rhinoscopy will reveal pus more often than the anterior view. A routine trans-illumination and X-ray of the sinuses is always made in these cases.

An antrum puncture is done and the character and cytology of the pus, if any, is noted. If the patient finds that the antrum puncture, followed by the injection of normal saline ephedrine solution has given him relief, then the next time he returns for treatment, the Proetz displacement method is used with normal saline in one per cent ephedrine for the displacing fluid. He is given about five such treatments, one every other day, and then for the next two displacement treatments an iodized oil, diluted with light mineral oil three to one, is used for the displacing fluid. Patients seem to prefer the iodized mineral oil to the ephedrine saline solution, probably because the dried mucus membrane is lubricated and it is soothing to the general soreness of the nose.

If the first antrum puncture with irrigation does not give much relief, the puncture should be repeated every four to five days, using saline solution until relief is obtained, always leaving the normal saline ephedrine solution in the antrum after irrigation. If, after five to seven washings and a good systemic and supportive treatment, there is no clearing up of the antrum

infection, an internasal operation is indicated. This operation gives very little discomfort to the patient and may be done in a clinic or in the office. The patient does not lose more than one to three days from work and the convalescence is much speedier than repeated antrum lavages.

There is one type of sub-acute antrum that is always a problem. In these cases, the lining of the antrum is very thick, hyperemic and edematous. Even weeks after the onset of the sinusitis the patient still complains of headaches, fullness in cheek and general run down condition. The natural ostium is closed by the edema or swelling of the mucus membrane, and it is practically impossible to shrink with ephdrine or other solutions. An antrum puncture is unsuccessful because the needle either pushes the mucus membrane in front of it or the needle becomes embedded in it. It is impossible to inject even small quantities of air or fluid into the antrum. It is also not possible to withdraw fluid from this antrum even with a small glass syringe.

In these cases, a window made in the nasal antrum wall with no further operative procedure seems to give the most satisfactory results. Due to the fact that the mucus membrane of the antrum is particularly sensitive, a general anesthetic is advisable. After the window is made, the mucus membrane seems to shrink, and the antrum may be irrigated through the window. An internasal or Cadwell-luc operation may be necessary later, but the majority of cases clear up with ventilation and drainage. If not, then the Proetz displacement method very often helps this type of case after the window has been made.

In the chronic antrum the first consideration is to remove the source of infection and then provide ventilation and drainage. The chronic antrum may be divided into the suppurative and non-suppurative types. With our clinical findings, trans-illumination and X-ray, a chronic maxillary sinus that has large quantities of pus should not be difficult to diagnose. The symptoms are varied. The patient complains of frequent colds following one another closely, or of a post-nasal discharge, irritated pharynx, cough and hoarseness. Others have a slight headache and some complain of loss of sense of smell, which may be partial or complete. Still others complain of quantities of pus and mucus discharged from the nose at intermittent intervals. A few chronic sinuses have no local symptoms whatever, and are discovered only when checking up the sinus for a focal point of infection. On the objective examinations, the nose may or may not show abnormalities. The mucus membrane may appear normal or one may find pathological conditions in the nose such as polypoid-degeneration of the turbinates, hypertrophies and hperplasias of the turbinates and polyps. The amount of pus in the middle meatus varies. At times in the same patient one may see pus escaping and at other times it may be entirely clear. Pus in the middle meatus, of course, does not always originate in the antrum and may be due to infection of the frontal or anterior ethmoid sinus. If the pus is wiped away and reappears immediately, in all probability it is due to either a frontal or ethmoid sinus. It may be remarked here that finding pus in the antrum does not necessarily mean that the antrum is infected. It may be acting as a reservoir for pus that has been discharged from the frontal or ethmoid sinus.

Posterior rhinoscopy frequently shows us more than the anterior, most likely because the inferior turbinate slopes downward and back; this allows drainage into the throat from both the maxillary and accessory ostiums. In treating the chronic antrum, irrigations every five to seven days are given either through the maxillary ostium or by puncture through the inferior meatus. Normal saline only is used as the irrigating medium. If the pus continues to have a fetid or foul odor after two or three washings, it is wise to think of the infection as possibly dental or neoplastic in origin. If the antrum clears up fairly well with irrigations, we switch over to the Proetz displacement method, using normal saline with ephedrine.

Frequently the anterior portion of the middle turbinate is enlarged, either hypertrophied or hyperplastic, shutting off the ostium of the antrum. In these cases, it is better to amputate the anterior part of the middle turbinate in order to allow ven-

tilation and drainage. A sub-mucus resection may be also required so that the nose will have proper ventilation and that there will be no obstruction.

If after a month's irrigation and no gross pathology has been demonstrated, the antrum has not cleared up entirely, an internasal or Caldwell-luc operation is advisable. When an internasal operation is done, it is performed under local anesthetic. The internasal wall is removed and the floor of the nose is lowered to the level of the antrum and any polyps or hypertrophied mucus membrane curretted. With the antrum that has polypoid degeneration of the mucus membrane, polyps or cysts, or ulcerations, a Caldwell-luc operation is advised. To diagnose a chronic antrum without suppuration, an X-ray is taken. If the presence of polyps, cysts, hypertrophies or hyperplasia is suspected, another X-ray is taken after an injection of iodized oil in the antrum. The oil may be injected by canula through the natural ostium through the inferior meatus by puncture or by the displacement method. When X-rays are negative, with and without the iodized oil, and the objective examination of the nose reveals nothing, a sterile antrum puncture through the inferior meatus is often very helpful. The nasal wall is anesthetized and an antiseptic applied to the wall. The puncture is made with the patient in a prone position and about five cc of sterile normal saline solution is injected into the antrum with the patient's head turned toward the infected or suspected side. The sterile saline solution is then withdrawn and transferred to a test tube for examination. Three or four syringe fulls are generally used. It is surprising the amount of mucus and pus that is found in a seemingly negative antrum by this simple procedure. These washings may then be used for bacteriological examination and for culture for vaccine.

With youngsters that have running noses and a pussy discharge, this sterile puncture gives us much information about the antrum and the pus may be used for culture for vaccine. Speaking of vaccines, there have been very good results obtained from vaccines. These vaccines are only of benefit in those cases where we do not have any greatly manifested pathological condition of the mucus membrane.

Shall We Destroy Medical Protection For Selfish Gain?

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To understand the magnitude of the healing art, it is well that we consider the chronological steps of medical science which is as old as mankind yet more modern than any invention.

From the day that man sinned and disobeyed the laws of God, disease has attacked the human family. Primitive man forgot the cause of his suffering and his philosophy of life's problems was founded on mystery and magic. Driven from the Garden of Eden, he became a roving savage, facing a hostile world, hunting his food by day and hiding for protection at night. The agony of disease and the injuries which befell him caused him to crawl to his lair to die. This primitive man, though savage, was nevertheless, intelligent and reasoned on abstract matters. Those things for which he could not find a tangible form were credited as supernatural. Into this category he placed disease and so it remained for centuries, with its chief treatment practiced through mystery and magic.

Today we can trace the development of practice from the earliest times — when the medicine man dressed in his bizarre

and fantastic costume, pretending, by his weird chant, continuous stomp and the laying on of hands, to drive away the evil spirit. On through the early days of civilization, Egyptian, Babylonian and Jewish, we can see rising almost imperceptibly above the morass of mystery and magic the beginning of rational medical practices. In time, mystery and magic gave place to religion. The Jewish people developed a very sound and rational code of hygiene; sanitation at their hands became a religious precept with the rabbis as sanitary police.

It was among the ancient Greeks that the principles of modern scientific medicine were formulated. They separated it from religion, removed mystery from medicine and made it a practice, not of magic, not of religion, but of common sense, observation and logical deduction.

Hippocrates 2,300 years ago gave us the nucleus of science and medicine. It is he whom we revere as the father of modern medicine; his philosophy and ethics have been a guiding influence to this day. Dioscarides, a Greek army surgeon, originated the Materia Medica, and recorded the use of mandragora wine as an anesthesia for surgical operations. The great Roman physician, Galen, enlarged upon the medical knowledge practiced by the conquered Greek physicians. Rome ruled the world, built cities with paved streets, aqueducts and sewers and instituted the principles of public health.

In the years between the days of Hippocrates and the rise of the modern period, civilization was to decline, and with it medicine. Science and civilization rose and fell many times with very little progress in either. Speculation and dogmatism entered the field of medicine to displace observation and clear reasoning. Rival schools sprang into existence; the men of these schools were more interested in making additions to their dogmas than they were in carrying on unsullied the great principles that Hippocrates had outlined. This type of thinking, and the rivalry established led to quackery and was the mother of many of the healing cults and fads of today. It was a difficult path that Hippocrates pointed out for medicine to follow — one that involved intellectual honesty. Only the highest type of men have the intelligence, the independence, the integrity and the courage to admit their errors and seek after the truth without bias. It is men of this type that have given us modern medicine.

John Hunter, who correlated surgical procedures with the physiology and pathology of the diseased part, along with Lister who modernized asepsis, did more to elevate surgery to a specialty than any other men. Edward Jenner founded the principle of preventive medicine and gave us vaccination, the most valuable of all prophylactic measures. It is by the application of this principle that smallpox, typhoid and typhus fever, diphtheria, tetanus and many other diseases have ceased to terrorize the human family.

Phillippe Pinal demonstrated that the mentally deranged were ill, thus opening the way for adequate care of the insane and for modern psychiatry.

The center of medical education shifted from Leyden and Paris to Vienna and Edinburg during the 18th century and scientific medicine was at a stand-still. As the 19th century began, we recognize the turning point—years filled with knowledge of cellular pathology, bacterial cause of infection and disease, revolutionary discoveries as that of anesthesia, asepsis and the application of chemistry and physics to physiological problems. During this century such names as Marton, Long, Wells, Pasteur, Koch, Lister, Ephrian, McDowell, Richard Bright, James Parkinson, Carl Basedow, William Stokes, Thomas Addison, Edward Squibbs, and many other physician-scientists who have altered our way of living, our ways of thinking more profoundly than the warriors, the traders, and even the philosophers of all ages were written on the pages of history never to be erased.

Any fair-minded individual can easily recognize that the progress by scientists and the medical profession have been responsible for the rapid and progressive development of the healing art. It has meant years of hard work, with the cost of countless lives well spent, from the first primitive efforts which were made to allay human suffering to the present day operating room with its great sterilizing machines,

its immaculate linens, its gleaming instruments for every need, and its efficient anesthesia, all administered and supervised by a corps of men and women, trained to the finest detail, who have consecrated their lives for the relief of human suffering, never willing to discard from their ethics the religious sacrifice of self for the good of others, principles older than science. This technical development has reached far into the new world. By means of the laboratory we trace down the cause of nearly every disease. The wonders of diagnosis and the efficiency of therapy cannot be too greatly emphasized because through this route has come the science of modern medicine. But no matter how glorious are its potential benefits, or how great its contributions, it is not of itself medicine complete. As long as human beings remain human beings, and there exists the freedom of thought and the privilege of individual contacts, personality must remain an integral part of the practice of medicine. It is not to the great laboratory technicians nor yet to the centers of industrial medicine that we turn when in pain, but to the family physician, the man of the individual's choice, the man in whom the sick person has implicit confidence. This family physician, this personality, aided by science and industry, stands as a peer among men, at the helm of one of the ships of civilization, with its cargo of diseased human beings, guiding it through the troubled days of pain and suffering into the harbor of recovery, or to a painless and less troubled death.

Each physician maintains and operates an office which is open to the public and in which the public is given service and for which the public compensates the physician. The hospital, however, which is the workshop of the doctor, and corresponds to the court house, which is the workshop for the lawyer, in many instances, is maintained by a doctor, a group of doctors or some philanthropic society or organization.

Hospitals, dealing with life and death, must of necessity forget the economical basis of maintenance and think primarily of efficiency, accuracy and the end results. This efficient service rendered necessitates the outlay of more money than is required to run the ordinary type of business and, in turn, the compensation fee required by the hospital may be higher than the average individual expects.

Certain organizations led by dissatisfied, uninformed persons with a desire to increase the financial gain of a few individuals, professing to be ethical practioners of medicine, are attempting to break down all the safeguards of this noble profession, by changing the medical practice act of the state. In order to maintain a hospital, they are offering in glowing terms cheap hospital rates, and selling professional service, depriving the individual who enters into contract the privilege of being served by the physician of his choice.

The medical profession of the state of Oklahoma offers no opposition to establishment of cooperative hospitals. Few, if any, physicians would be unwilling to transfer their hospitals to an organization if they would be maintained efficiently and ethically, to protect the lives of those who must needs be treated therein, but every doctor who has embedded in his heart and mind the principle upon which the healing art has made its progress—and of this type there are the greatest number — resents the interference of any group or organization who, for its own advantage and selfish interests, attempts to break down the medical practice act of the state. If we allow an organization, whether it be a group of farmers or doctors, under the guise of church or cult, to organize for the purpose of sending out "cappers and steerers," men and women to sell the professional services of those who have, through years of contact with the people of the state, built up enviable reputations as internists or surgeons, then we are reverting to the age of mystery and magic and commercializing the sacred profession which can only be classed as the healing hand of Christ.

The present Cooperative Hospital plan, as outlined by its sponsors, provides that a farm family that can purchase $50.00 worth of stock and is able to pay a definite annual fee, is eligible for membership. The thrifty farmer who has had considerable illness sees in this plan a chance to save money. High-powered salesmen are sent out to make unwarranted statements as to the hospital and medical service offered, and lead thoughtless individuals to pur-

chase stock. The whole plan, as set out, is to provide hospital and medical attention for the families who are in the middle and upper financial classes, while no provision is made for the poor man and his family. Hospitalization cannot be offered to them unless the institution is compensated for the services rendered, whether by the county or state. The consequences are that private institutions owned by other organizations or individuals must bear the brunt of the financial burden and render service to the poor man and his family. It is evident that such individually owned hospitals cannot operate unless those who are financially able to pay for medical and hospital service also come. Therefore, without paying patients, it would be necessary for such hospitals to close their doors and the local community would be without proper hospitalization. The very principle upon which this cooperative plan is suggested is definitely undemocratic.

The last legislature recognized the trend of sentiment in Western Oklahoma and attempted to provide for the poor by setting aside $175,000.00, or that portion necessary, for the purchase of an institution whereby people who are not financially able to pay for hospitalization and medical care could receive proper attention at the expense of the state.

The idea of establishing hospitals under group or board management is not new. During more prosperous former years, doctors and laymen have organized similar enterprises to make money, but with contrary results. Their financial reserve exhausted, the buildings and equipment were sold or turned to some benevolent organization. The operation of a hospital is a highly specialized business, demanding a consecration of time and thought that few are willing to give. The Catholic Sisterhoods, with their quiet, congenial manner and self-sacrificing spirit, coupled with long years of hospital management, are accepted as criterions in this field, and any other hospital organized may well follow their competitive example as to services and fees.

Why is a cooperative hospital established? Is it to secure cheaper hospital service? If so, is there any reason to believe that a group without experience in such management or even a faint idea of what is needed in the way of service to the sick, can operate a hospital more economically and efficiently than those who have made a life study of it? The actual expense of sickness must either be paid by the one who is ill or proportioned out among many lay members, stockholders and members of the controlling organization. If distribution of cost is desirable, it would be far wiser to take a policy in one of the many hospital insurance companies. Such reliable companies pay the prevailing prices for hospitalization, and in addition each member has the right to choose the hospital he feels will give the best service and meet his particular needs. The patient can select the physician or surgeon in whom he has confidence — few people would have the necessary confidence in a man hired by the state to take care of whomever was sent to him. There is something touching and sacred in the admiration and respect and confidence of an individual for his own doctor, a feeling not replaced by man-made laws designating whom shall serve in hours of need.

Under the plan that has been submitted for cooperative hospitals in Oklahoma, not only is hospitalization offered, but medical, dental and surgical services as well. This is nothing more than a feeble attempt to offer hospital and sickness insurance, capitalizing on the services rendered.

Such sickness insurance is now compulsory for employees of railroads and various other large corporations; some European countries have forms of sickness insurance, foremost among them being England, who passed the National Health Insurance Act in 1911. Since that time the capitation fee has increased until it is now nearly three times the original cost and, in spite of this increase in cost, the service rendered is far from adequate. The Social Insurance Law of Germany includes sickness, and the ever-increasing cost of this phase is giving the government considerable worry. Denmark, Switzerland, France and the Scandinavian countries have some form of sickness insurance, but not controlled by lay management. In these countries there is marked disagreement as to the quality of the medical ser-

vice. It is generally admitted that there is a tendency towards superficial diagnosis, over-medication and excessive hospitalization.

The financial aspect of medical care is the only reason given by promoters for changing the present system—certainly no one questions the advancement of the type and manner of treatment. There is a distinct tendency to lose sight of the relationship of this question to the general family budget and to national expenditures. Non-governmental medical services represent about 2.4 per cent of our national income. Governmental expenditures, raised by taxation for medical and institutional care, bring the sum total to three per cent.

Comparing the cost of medical services required for the average family to the cost of luxuries for the same family, will prove that sickness requires an expenditure of $65.00 per year, while the non-essentials which are directly under the family control, as tobacco, candy, soft drinks, jewelry, perfumes, sports, alcoholic beverages, etc., amount to the sum of $450.00 per year.

The total of the nations' bills for sickness is only about one-thirteenth of the national income, and the source of complaint seems not so much the amount as the manner of distribution. Sickness bills differ from nearly all other expenditures in the family budget because they occur unexpectedly and in varying amounts. Approximately half of the total expenditure falls to about one-sixth of the families. Any type of health insurance will be advantageous to this one-sixth of the families, yet the greater portion of the expense will be borne by the other five-sixths.

There should be a united effort by all the thinking people of Oklahoma to defeat Initiative Petition No. 166, which attempts to destroy present medical program and provide that the board of medical examiners shall be composed of seven members, two from the school of homeopathy, two from the eclectics and three from the regulars. It states that no school shall have a majority of members of the board, however, it allows the five per cent belonging to the schools of homeopathy and eclectics to have four members on the board of examiners against three members from the regular physicians who represent 95 per cent of those practicing in the state. The schools of homeopathy and eclectics are fast joining the regulars or c l o s i n g their own doors and before this petition would function there will not be more than one school teaching either homeopathy or eclecticism. However, the attempt of non-professional men to control the board of examiners of the medical profession is not the worst feature of this petition. It further provides that any group, either farmers, religious organization or charitable institution, can organize a cooperative hospital and legalize the sending out of "cappers and steerers" to secure members, offering not o n l y hospitalization but the services of dentists, nurses and physicians. It makes no provision that a group of doctors may organize for the same purpose. This part of the petition places a stigma upon the doctors and insinuates that a profession which has rendered service to humanity for more than a thousand years and has elevated the healing art from the category of mystery and magic to the peak of scientific knowledge, would not have a right to compete with some organization that cannot possibly have the interest of the p e o p l e at heart or know anything about the innermost workings of combating bodily ills. The medical profession in this state, and in fact in all states, has continued to live in a false dignity and stand aloof in a halo of medical ethics, and has allowed certain grasping individuals to enter into the realm and seize the reins of medical government. D u r i n g years of economic depression, these outsiders have attempted to hoodwink those who have felt the sting of hunger and pain into the b e l i e f that they were being offered a sanctuary of medical protection. For four years, I have implored the physicians of this state to shake from them the mantle of reserve and the false ego that "I am mightier than thou." In this question of idealism versus realism, we must control some form of socialized or state medicine, hospitalization and medical care for those who cannot pay at all and offer to low-wage earners the best of medical and hospital service at a cost which they can pay.

The desire of the medical profession is

not to destroy but to build, to make new progress, and hold the advancement that has been made. The search for means to alleviate human suffering has stirred man's very souls. Theirs has not been a task for remuneration, for worldly glory, for fine buildings, but a service that found its compensation in resulting good for both rich and poor, regardless of color or creed. Shall the result of centuries of work and study, that each physician might to the best of his ability serve his fellowmen, be swallowed up by a few money-seekers? Shall individuals be forced to call upon someone not personally interested in their illness? Shall the respect and confidence earned by years of faithful service be exchanged for a mere scrap of paper bought at a specific price?

Professions, to be worthy of the name, must ever have higher standards than business. From the first cry of the infant to the sunset of life necessarily come many times when human bodies and emotions need the helping hand of a trained physician. Let us maintain the high standards of our calling—let us serve our fellowmen as helpers of The Great Physician who ministered to all. Ours is an obligation that cannot but increase our proper pride and our determination to carry forward what has been so well begun by our colleagues. The extent of human need is appalling—everywhere there are individuals who need our help. The mass of God's people will never be released from sickness and despair by passing laws to protect a few who are able to pay while others suffer. This is not a time for us to quibble over quotas that are to be levied or false goals set up and professional reserve advanced, but rather for an awakening of a spirit that will give renewed courage in the heart of every professional man in the state of Oklahoma.

This awakening should be now!

"Tomorrow you will live, you always cry;
In what far country does this morrow lie,
That 'tis so mighty long ere it arrive?
'Tis so far fetched, this morrow that I fear
'Twill be both very old and very dear.
Tomorrow I will live, the fool does say;
Today itselfs' too late—the wise lived yesterday."

(Procrastination, by Martialis.)

American Board of Ophthalmology

The American Board of Ophthalmology announces that in 1938 it will hold examinations in:

San Francisco, June 13th, during the American Medical Association; Washington, D. C., Oct. 8th, during the American Academy of O. and O.L.; Oklahoma City, Nov. 14th, during the Southern Medical Association.

Up to the end of 1937, the Board has held 56 examinations and had certified 1,498 ophthalmologists. The Board on January 1st, 1938, issued a new and complete list of physicians certificated to date, arranged geographically. This list was mailed gratis to all certificated persons and to over 250 hospitals and institutions.

During 1937, examinations were held at Los Angeles on January 23rd, at Philadelphia on June 7th, and at Chicago on October 8th and 9th. At these examinations, 25, 71 and 84 candidates respectively were examined; of whom 19, 42 and 56 respectively were passed; 3, 17 and 25 respectively were conditioned; and 3, 2 and 1 respectively failed.

The American Board of Ophthalmology has established a Preparatory Group of prospective candidates for its certificate. The purpose of this Group is to furnish such information and advice to physicians who are studying or about to study ophthalmology as may render them acceptable for examination and certification after they have fulfilled the necessary requirements. Any graduate or undergraduate of an approved medical school may make application for membership in this Group. Upon acceptance of the application, information will be sent concerning the ethical and educational requirements, and advice to members of the Group will be available through preceptors who are members or associates of the Board. Members of the Group will be required to submit annually a summarized record of their activities.

The fee for membership in the Preparatory Group is ten dollars, but this amount will be deducted from the fifty dollars ultimately required of every candidate for examination and certification. For sufficient reason, a member of the Preparatory Group may be dropped by vote of the Board.

In future issues of the directory of the American Medical Association certificated ophthalmologists will be so designated in their listing.

Applications should be filed immediately. Required number of case reports must be filed at least 60 days prior to date of examination. Application blanks can be procured from: Dr. John Green, 3720 Washington Ave., St. Louis, Mo.

Spring Medico-Military Symposium

The annual Spring Medico-Military Symposium, sponsored by the Kansas City Southwest Clinical Society in conjunction with the medical department Seventh Corps Area, will be presented in Kansas City, Missouri, March 28, 29, 1938. This is a meeting devoted to medical subjects of military interests to which the entire medical profession is invited.

Medical reserve officers will gain information which will be of value in event of war, a not impossible eventuality; much that will be of value in his practice as well as being given credits which will apply on his advancement.

Guest speakers will include Dr. J. Albert Key, professor of clinical orthopedic surgery, Washington University Medical School, St. Louis, and Dr. Ovid O. Meyer, professor of medicine, University of Wisconsin, Madison.

The Kansas City Southwest Clinical Society invites the physicians of the Southwest to reserve March 28th and 29th to attend this meeting.

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OF THE
Oklahoma State Medical Association

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McAlester, Oklahoma

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McAlester, Oklahoma

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Reprints of original articles will be supplied at actual cost provided request for them is attached to manuscripts or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in The Journal the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the Editor, McAlester Clinic, McAlester, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes of addresses, births, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application.

It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

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EDITORIAL

POST GRADUATE MEDICAL TEACHING

The Committee on Post Graduate Medical Teaching of the State Medical Association is rapidly completing the plans for post graduate medical teaching in obstetrics to be held throughout the state during the next two years. This work is under the auspices of the State Medical Association; however, the Commonwealth Fund of New York City is placing in the hands of this committee considerable money to assist in the expense of this undertaking. Also the Oklahoma state health department is cooperating financially in this matter.

The plan is to bring to this state a full time instructor in obstetrics and he will give in each locality a ten weeks intensive course in the handling of obstetrical cases. The plan is, that he will spend an entire day in each town in the circuit; that he will see patients in consultation; that he will make talks before civic clubs, women's clubs and other organizations and that he will carry on a well planned post graduate course.

There will be a director employed who will arrange these courses in advance. He will enroll members and collect a small fee for this post graduate teaching. This plan will be entirely perfected within the next few weeks and it is hoped that in the next issue of the Journal the profession of the state will be given all of the particulars as to how this work is to be carried out.

This is a most forward step in post graduate medical teaching and is similar to the work that is being done at this time in Tennessee under the direction of our old friend, Mr. L. W. Kibler.

Let the profession of the state be prepared to accept this wonderful opportunity.

1938 ANNUAL MEETING

Arrangements are r a p i d l y perfecting themselves for the Annual Meeting which will be held in Muskogee, May 9, 10, 11, 1938.

The local Committee on Arrangements have perfected their plans so that all Sections will be comfortably and conveniently housed. The entire basement of the Hotel Severs will be revamped for our registration booth, the commercial and scientific exhibits.

We have been fortunate indeed in procuring t h r e e outstanding men for our guest speakers: Frank Neff, Kansas City, pediatrics; Edward Wm. Alton Ochsner, New Orleans, surgery; Wm. S. Middleton, Madison, Wis., internal medicine.

It is not too early for you to begin to make your plans to attend this meeting and make your individual contribution to see that this meeting is an outstanding success.

THE SOUTHERN MEDICAL ASSOCIATION

At the meeting of the Southern Medical Association held in New Orleans last fall, Oklahoma was honored by having this year's meeting placed in Oklahoma City.

This meeting was placed in Oklahoma upon the combined invitation of the profession of Oklahoma City and the State Medical Association and we must all thoroughly cooperate in order to make this meeting the success that the members have every reason to expect.

The medical profession of Oklahoma City has perfected its Committees and Dr. Henry H. Turner has been elected as General Chairman. The names of the Vice-Chairmen include Dr. L. J. Moorman, Dr. W. K. West, Dr. Lea A. Riley, Dr. W. W. Rucks, Dr. E. S. Lain and Dr. C. J. Fishman. Dr. John F. Burton will be convention secretary.

Honorary vice-chairmen include Dr. Robert U. Patterson, Dr. Geo. A. LaMotte, Dr. Chas. M. Pearce, Dr. E. S. Ferguson, Dr. Horace Reed, Dr. LeRoy Long, Dr. H. K. Speed, Dr. William Taylor, Dr. A. W. White, Dr. R. J. Howard, Dr. C. E. Barker, Dr. J. T. Martin and Dr. John F. Kuhn.

Sub-committee chairmen are: Finance, Dr. Wendell Long; Program and Clinic, Dr. H. Dale Collins; Entertainment, Dr. Rex Bolend; Membership, Dr. E. S. Lain; Hotels, Dr. P. M. McNeill; Publicity, Dr. Basil A. Hayes; Alumni Reunions and Fraternity Luncheons, Dr. D. H. O'Donoghue; Scientific Exhibits, Dr. W. W. Rucks, Jr.; Information, Dr. W. F. Keller; Transportation, Dr. E. R. Musick; Golf, Dr. L. Chester McHenry; Trap-shooting, Dr. Theodore G. Wails; Women Physicians, Dr. Leila E. Andrews: Ladies' Entertainment, Mrs. L. J. Moorman.

The State Organization wishes at this time to offer the medical profession of Oklahoma City any assistance that we may be able to render and we feel sure that the individual members of the Association will be very glad to give freely of their services when called upon.

Opportunity for Physicians to Tour America En Route to the Convention

The thought that the forthcoming A.M.A. Convention in San Francisco, June 13th to the 17th, is a splendid opportunity for a tour of the United States both going out and coming back, has inspired definite action. The cooperation of more than 25 state medical societies has made it possible to arrange a special train tour which will include such outstanding highlights of the North American continent as the Indian Detour, the Grand Canyon, Los Angeles, Riverside and Santa Catalina Island—on the way out to San Francisco. A choice of two return routes is possible, one of which visits the charming cities of Portland, Seattle, Victoria and Vancouver and the beautiful scenic spots of the Canadian Rockies; the second route travels via Yellowstone National Park, Salt Lake City, Royal Gorge, Colorado Springs, and Denver.

There is an all-inclusive price for this tour which includes transportation from home-town to home-town, though the tour starts officially at Chicago on Monday, June 6th, from which point an American Express escort joins the group, as this travel company has been appointed transportation agent and the business details of the trip are in their capable hands.

Let us take a preview of the tour. The first day out of Chicago, racing across the broad, wheat-growing face of Kansas, we become acquainted with our traveling companions, physicians from other states, their families and friends, and find ourselves among congenial, like-minded traveling companions. We first leave our train at Lamy, New Mexico, to enter the Indian Pueblo district by motor-coach. We spend a whole day exploring the traces left by a vanished civilization on this continent, visiting Santa Fe, Tesuque, Puye and Santa Clara Pueblo.

The next morning's arrival at the Grand Canyon will remain in our memories forever. The vast chasm, four to 18 miles wide from rim to rim gives us stupendous vistas of awe-inspiring beauty, unparalleled the world over. We drive over the famous Hermit Rim Road, skirting the edge of the chasm in the morning, and in the afternoon over Desert View Road through the Tusayan National Forest and along the Canyon's rim, stopping at Yavapai Point Observation Station for a short, interesting lecture by the park naturalist. This drive ends at the Watch Tower, a recreation of the ancient towers erected by the prehistoric inhabitants of the southwest.

The golden, amazing city of Los Angeles is next on our itinerary, and our sightseeing trips acquaint us with its Spanish Quarter and Chinatown, as well as its beautiful environs, including flowering Pasadena. Riverside and its orange empire, its lemon and grapefruit orchards and its famous Mission Inn, is another destination; and then, on our third day in California we sail to beautiful Santa Catalina Island, playground of this land of the sun. And in this delightful manner, a week after leaving Chicago we arrive at San Francisco in time for the Convention. We shall not discuss the interesting time that awaits us at our conclaves, as the object of this article is to describe the pre- and post-convention tour. So we turn again to our itinerary after the Convention.

Supposing we had chosen Return Route No. 1. We shall visit Portland, Oregon, famed as the city of roses, and enjoy as well a drive along the noted Columbia River Highway. Seattle is next, and here we also cover all the points of interest, including both the Lake and Sound districts. Now the Canadian part of our journey begins, and we sail by comfortable steamer to the cities of Victoria and

Vancouver, where we do sightseeing. Now a train takes us into the enchanting scenic regions of the Canadian Rockies, and we stop at Chateau Lake Louise, at the lake of the same name—a gem of exquisite color, surrounded by green forests and snowy peaks. Our drives through the heart of the Rockies takes us to Moraine Lake, the Valley of Ten Peaks, Johnson Canyon and finally to Banff, where we make another stopover. After additional sightseeing around Banff, we entrain for Chicago.

Return Route No. 2 takes us to Chicago in a more southerly route. A 3½-day tour of Yellowstone National Park is one of the highlights of this tour. Ranger naturalists conduct our party to the geysers and hot pools, and we feast our eyes on Old Faithful in its hourly eruption. We also see the Grand Canyon of the Yellowstone and Mammoth Hot Springs. Salt Lake City is on our itinerary, which gives us an opportunity to visit Saltair Beach on Great Salt Lake, also the Great Copper Mills and Smelters. Our next call is at Colorado Springs, the noted health and pleasure resort. Our travels in the Rockies take us up to the summit of Pikes Peak, to the Garden of the Gods, to Seven Falls, and finally to Denver. This lovely city is a center for outings in the Rockies, and we are soon off on a 65-mile tour of Denver Mountain Parks, including Memorial Museum and Tomb of Buffalo Bill of western fame. From Denver we travel to Chicago.

The above is barely a glimpse of the outline of the tours, but it is hoped that some idea has been given of the enjoyable travel awaiting those physicians and their families and friends, who wish to combine attendance at the Convention with an interesting journey and a happy vacation.

Editorial Notes—Personal and General

SOUTHEASTERN Oklahoma Medical Association met in McAlester, December 9, 1937, at the Aldridge Hotel and the following program was heard: Traumatic Injuries—First Aid and Office Treatment, Dr. M. L. Henry, Heavener, Okla.; X-Ray Therapy in the Treatment of Carcinoma of the Breast and of the Cervix, Dr. Edward Greenberger, McAlester, Okla.; business session; luncheon—12:15 Aldridge Hotel. Program resumed 1:15 p.m.: Invocation, Rev. S. R. Braden, pastor, First Presbyterian church, McAlester, Okla.; welcome address, Dr. C. E. Lively, president Pittsburg County Medical Society, McAlester, Okla.; response to welcome address, Dr. H. B. Fuston, Bokchito, Okla.; Present Status of the Medical Profession in Oklahoma, Dr. Sam A. McKeel, president, Oklahoma State Medical Association; The Pathology of Fractures, Dr. L. S. Willour, member and district chairman, Oklahoma Regional Fracture Committee, American College of Surgeons, McAlester, Okla.; The Management of Fractures — Demonstrated with Motion Pictures, Dr. Earl D. McBride, general chairman, Oklahoma Regional Fracture Committe, American College of Surgeons, Oklahoma City, Okla.; The Treatment of Fractures of the Bones of the Hand and of the Feet, Dr. Pat Fite, member Oklahoma Regional Fracture Committee, American College of Surgeons, McAlester, Okla.

Officers elected for 1938 were: Dr. E. H. Shuller, president, McAlester; Dr. W. Keiler Haynie, vice-president, Durant; Dr. John A. Haynie, secretary-treasurer, Durant.

DR. HUSTON K. SPANGLER, former assistant Superintendent of the Worcester, Mass., City Hospital, has been appointed Superintendent of Valley View Hospital, Ada, upon its completion. Dr. Spangler is a graduate of the University of Pennsylvania Graduate School of Medicine, and was engaged in general practice in Philadelphia, associated with the Nanticoke Hospital in Pennsylvania, before going to Worcester in 1934.

DR. R. H. LYNCH, Hollis, has been appointed County Health Superintendent of Harmon County.

DR. FOWLER BORDER, Mangum, has announced his candidacy for governor.

DR. JAMES D. OSBORN, Frederick, who was injured in an automobile accident in December is reported much improved.

DR. B. J. CORDONNIER, Okeene, is taking post graduate work at the Augustana Hospital, Chicago.

DR. E. S. KILPATRICK, Elk City, announces his removal to Leedey, where he will establish a private practice and hospital.

DR. W. R. BLACK, Seminole, is reported ill from an acute heart attack.

DR. and MRS. F. B. ERWIN, Oklahoma City, spent three weeks in California, vacationing, in January.

DR. J. M. PEMBERTON, Oklahoma City, announces his removal to Okemah.

News of the County Medical Societies

TULSA County Medical Society launched its activities for 1938 at the first meeting of the year, January 10th, with the employment of an executive secretary and the installation of the new officers for the year.

Dr. M. J. Searle, who served the past year as president-elect, assumed the president's chair and the following officers were elected: Dr. A. Ray Wiley, president-elect; Dr. P. P. Nesbitt, vice president and Dr. Roy L. Smith as secretary-treasurer. Dr. A. W. Pigford was elected to the board of trustees which is composed of Drs. Henry S. Brown, W. Albert Cook, Charles H. Haralson, Ned R. Smith, Searle and Wiley. The board of censors for the coming year will be Drs. Nesbitt, G. A. Wall and V. K. Allen. Delegates are Drs. G. R. Osborn, J. Stevensoon, R. C. Pigford, W. Albert Cook, M. D. Henley, W. S. Larabee, Ned R. Smith, M. J. Searle and A. Ray Wiley. Alternates are Drs. Haralson, Roy W. Dunlap and J. C. Brogden.

Lloyd Stone, advertising man and former secretary of the Tulsa Junior Chamber of Commerce, was elected executive secretary of the organization. Stone has lived in Tulsa since 1914. He attended the University of Oklahoma and since that time he has been engaged in newspaper, advertising and public relations work, with the exception of four years when he was secretary of the Junior Chamber which was the largest in the United States during his terms of office.

With the society's objective of a greater influence in medical work in Tulsa County, Stone will leave immediately to study the organization set-ups in Detroit, Chicago and Wichita. The work of the Tulsa organization will be along the lines followed in these other cities.

PAYNE County Medical Society elected the following officers for 1938, at their meeting held December 16, 1937: Doctors E. M. Harris, Cushing, president; P. M. Richardson, Cushing, vice-president; John W. Martin, Cushing, secretary-treasurer.

HUGHES County Medical Society elected the following officers for 1938 at their meeting in December: President, Dr. W. L. Taylor, Holdenville; vice-president, Dr. R. B. Ford, Holdenville; secretary-treasurer, Dr. Imogene Mayfield, Holdenville.

PITTSBURG County Medical Society met at the Aldridge Hotel, McAlester, January 25th for their first program of the year. Drs. Wann Langston and Harry Wilkins, Oklahoma City, spoke on "Coronary and Heart Diseases" and "Injuries of the Spinal Cord," respectively. New officers for the year are: President, Dr. Allen R. Russell; Vice President, Dr. Floyd T. Bartheld; Secretary, Dr. E. D. Greenberger, all of McAlester.

WOODS County Medical Society met at the Bell Hotel, Alva, January 25th for the following program and election of officers: Dinner at 7:30; Film, "Sterility"; Paper, "Bowel Surgery," Dr. Green K. Dickson, Oklahoma City; Paper, "Skin Diseases in Children," John H. Lamb, Oklahoma City.

Dr. Arthur E. Hale, Alva, president; Dr. O. E. Templin, Alva, secretary.

MUSKOGEE County Medical Society met December 20th, for election of officers for 1938: President, Dr. Finis W. Ewing; vice-president, Dr. Ira C. Wolfe; secretary-treasurer, Dr. Shade D. Neely; board of censors, Drs. W. D. Berry, Chairman, Geo. T. Kaiser and Joel T. Woodburn, all of Muskogee.

MUSKOGEE County Medical Society met January 17th at the Baptist Hospital for the following program: "Pathology, Special Reference to Autopsy," Dr. I. A. Nelson, Tulsa; "Breast Tumors," Dr. Walter Larrabee, Tulsa.

Recent Deaths

DR. JOHN HAMMER, Kiowa, Kansas, January 3, 1938.

DR. H. A. HARRIS, McAlester, January, 1938.

DR. CHARLES CATON, Wynona, January 3, 1938.

Books Received and Reviewed

PSYCHIATRIC NURSING, By William S. Sadler, M.D., Chief Psychiatrist and Director, The Chicago Institute of Research and Diagnosis; Consulting Psychiatrist to Columbia Hospital. IN COLLABORATION WITH Lena K. Sadler, M.D., Associate Director, The Chicago Institute of Research and Diagnosis; Medical Director, The Northside Rest Home; Attending Physician, Columbus Hospital and the Women and Children's Hospital. WITH Anna B. Kellogg, R.N., Member American Nurse Assiciation; Chief of Nurses, The Psychiatric Clinic of the Chicago Institute and Diagnosis; Instructor of Psychiatric Nursing, The North Side Rest Home. The C. V. Mosby Company, St. Louis, 1937.

This book has been written to meet the requirements of the recently enlarged courses in psychiatric nursing, which have been adopted by the majority of American schools of nursing. The book endeavors to give the nurse a broad but comprehensive view of the approach to mental hygiene, the technic of dealing with human beings as a whole and the nursing care of the different psychiatric diseases. It is divided into four parts: General Considerations, the Neuroses, the Psychoses, and Psychotherapeutics.

CRIPPLED CHILDREN, Their Treatment and Orthopedic Nursing, by Earl D. McBride, B.S., M.D., F.A.C.S., Assistant Professor of Orthopedic Surgery, University of Oklahoma, School of Medicine; Attending Orthopedic Surgeon to St. Anthony Hospital; Associate Orthopedic Surgeon to Oklahoma City General and Wesley Hospitals; Visiting Surgeon to W. J. Bryan School for Crippled Children; Chief of Staff to Reconstruction Hospital, Oklahoma City, Oklahoma; Member of American Academy of Orthopedic Surgeons. IN COLLABORATION WITH Winifred R. Sink, A.B., R.N., Educational Director, Grace Hospital School of Nursing, Detroit, Michigan; Formerly Head Nurse of James Whitcomb Riley Hospital of the Indiana University Group; Instructor of Nurses, Indiana University School of Nursing; Educational Director, General Hospital, Mansfield, Ohio. Second Edition. Cloth, Price $3.50. C. V. Mosby Company, St. Louis, 1937.

The organization for work among crippled children is far advanced in practically all of the states of the Union. Not only are physicians interested in this work, but many civic clubs, women's organizations, et cetera, have given of their time and money toward the advancement of the care of these unfortunate children. This book gives information that will be of value to the orthopedic surgeon, general practitioner, nurse and social worker, and by their education is the only hope of preventing many crippling conditions, especially following poliomyelitis.

Dr. McBride's extensive experience in this work makes him a very capable authority and in this work he has placed his materials in such a fashion that it is readily accessible and contains all of the procedures useful in the prophylactic as well as curative treatment of the crippled child. Its wide application bespeaks for it an extensive circulation and it is hoped that those interested will avail themselves of this wonderful book.

THE PHYSICIAN'S BUSINESS, Practical and Economic Aspects of Medicine, By George D. Wolfe, M.D., Attending Otolaryngologist, Sydenham Hospital, New York City; Attending Laryngologist, Riverside, New York City; Fellow, New York Academy of Medicine; Fellow, American Medical Association, etc. Foreword By Harol Rypins, A.B., M.D., F.A.C.P. Fifty-seven Illustrations; Cloth. J B. Lippincott Company, Philadelphia.

The Physician's Business is a very exhaustive treatise of value primarily for young physicians just entering the profession. In my opinion it tries to cover too much territory and the name "Physician's Business" is misleading, if not a misnomer. The author is not satisfied in confining himself to the business end of physicians problems, which though are thoroughly, and I believe well covered, but includes numerous suggestions as to treatment such as giving in detail the antedotes for poisons, advice on diets, et cetera, et cetera, even to mentioning such suggestions as "that babies shouldn't be allowed to suck their thumbs."

ABSTRACTS : REVIEWS : COMMENTS *and* CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments from
LeRoy Long Clinic
714 Medical Arts Building, Oklahoma City

The Role of Liver Damage in the Mortality of Surgical Diseases. By Frederick Fitzherbert Boyce and Elizabeth M. McFetridge, New Orleans, La. Southern Medical Journal, January, 1938, Page 35.

Directing attention to the importance of liver function which the authors believe has been too lightly regarded, there is a reference to liver damage in connection with infectious processes, such damage being regarded as a secondary "and often a terminal phenomenon." While this is regarded as being of importance, there is no discussion of that type of damage—that is, terminal damage due to infection, it being the obvious purpose to consider two other types of liver insufficiency.

In the first group there is hyperpyrexia which overwhelms the patient within the first 48 hours, notwithstanding clinical evidences of having been a good surgical risk before the operation. Autopsy in this group discloses degeneration or actual necrosis in the liver.

In the second group the patient may live from seven to 14 days after operation but finally dies "with uremic symptoms dominating the picture." Here, too, "these same findings are present (degeneration and necrosis), plus similar changes in the convoluted tubules of the kidneys."

Heyd is given credit for first describing the so-called liver or liver-kidney death in 1924, the reference in the bibliography showing that it was published in the Journal of the American Medical Association in 1931, Volume 97, page 1847.

It is believed that unrecognized liver insufficiency is always a tremendously important predisposing cause of degeneration in the liver after surgical operations in which there is no definite infection, the immediate cause being an overwhelming toxemia with hyperpyrexia due to absorption from the degenerating areas.

In this connection, the authors make a contrast between the difficulties following stab wounds of the liver and crushing wounds of the liver. In the latter there is rapid n e c r o s i s, accompanied by hyperpyrexia, while, in the former, necrosis of the liver and hyperpyrexia are not nearly so common.

It is indicated that the same type of liver damage may be associated with intestinal obstruction and toxic thyroid disease. Speaking of the liver damage in toxic thyroid disease the statement is made, "The possible association has been noted since 1865, though it was not considered anything but accidental until well into the present century, and the relationship has been studied intensively only within the last few years."

In connection with diseases of the biliary tract, the following statement is made: "Our theory as to the cause of death in such cases resembles that advanced by Helwig. Briefly, we believe that the damaged livers of some patients with biliary tract disease, while they can withstand the strain of normal life, cannot withstand the added strain of surgery and its concomitant trauma and changes."

There is a rather enthusiastic reference to the value of the Quick hippuric acid test of liver function in which the authors apparently have great faith. The references in the bibliography show articles by McFetridge and Boyce. The articles have not been published, but are in press.

The authors have been surprised by the indication of low liver function as shown by the test, particularly in connection with toxic thyroid disease. In addition to that, they have been astonished at finding, by this test, evidences of great hepatic insufficiency even in young and apparently vigorous persons used as controls. In this class comparatively simple and ordinary operative procedures, like appendicectomy and hernioplasty may be followed by dangerous symptoms.

A rather s t r i k i n g statement is this: "Under ethylene anesthesia it (presumably liver function) fell 21 per cent on the first postoperative day, under ether it fell 25 per cent, and under spinal it fell 49 per cent." While it is not perfectly clear, it appears that the statements about the effect of anesthesia upon the liver function were based upon observations in the cases of those who had preoperative evidences of low liver function as determined by the Quick hippuric acid test.

LeRoy Long.

Effect of Certain Gynecologic Lesions on the Upper Urinary Tract. By Kretschmer and Kanter. Journal of the American Medical Association, Oct. 2, 1937, Bol. 109, Page 1097.

In previous studies by Kretschmer and Heaney it was demonstrated that dilation of the ureters and kidney pelves occured in 100 per cent of their cases of pregnancy and that there was a recovery to normal within 12 weeks following delivery.

With this in mind, the present study was organized to determine changes in the upper urinary tract from lesions of the pelvic genitalia in nonpregnant women. They desired answers to the following questions:

"1. Do changes in the upper urinary tract occur in association with lesions of the pelvic organs in women?

"2. How frequently do they occur?

"3. Is there any definite relation between the type of disorder in the pelvis and the lesions in the upper urinary tract?

"4. In what way, if any, do the changes resemble changes found during pregnancy?

"5. Do these changes completely disappear after the pelvic disorder has been corrected by the appropriate surgical measures?"

They selected only patients with no urinary symptoms and with normal urine examination. They excluded instances of carcinoma of the cervix

because of the almost universal involvement of the ureters and because the lesion could not be satisfactorily eradicated for the purposes of the present study.

Intravenous pyelograms were employed routinely both before and after operation.

Fifty-one patients were so studied with the intravenous pyelogram supplemented by retrograde pyelogram when the intravenous was not satisfactory. Of these cases 35 were fibroid tumors, 11 ovarian cysts, 4 uterine prolapse and 1 tubo-ovarian abscess.

They found secondary changes in the upper urinary tract in association with these gynecological disorders in the following percentages. For the entire series of 51 cases 64.7 per cent, for the group of fibroids changes were found in 65.7 per cent, in ovarian cysts 81.9 per cent, in the uterine prolapse patients 25 per cent, and in the one case of tubo-ovarian abscess there was no change in the upper urinary tract.

Following appropriate surgical procedures there was a return to normal in 72.5 per cent of the patients. Most of these examinations postoperatively were done soon after operation and the authors feel that after a longer time has intervened there will be a slightly higher recovery rate to normal.

They feel that the failure to appreciate the frequency with which these lesions occur, is due to the fact that there has been no routine preoperative study of the urinary tract in the group of patients who do not present urinary symptoms or urinary signs.

Comment: Instances of the effect of gynecological lesions on the urinary tract are common and can be readily understood. Where patients have urinary symptoms and signs leading to the proper investigation of the urinary tract and also have gynecological lesions, proper correction of the gynecological disease, by surgery or other means, materially assists in the treatment of the urological disease and the return of the urinary tract to normal.

This study, by careful reputable urologists, directs our attention to the changes which frequently occur in the upper urinary tract from pelvic lesions even in the individuals who do not have symptoms. Since it also demonstrates the therapeutic effects of correction of the gynecological lesions upon the urinary tract changes, the conclusion can quite evidently be drawn that patients with upper urinary tract disease deserve pelvic investigation and indicated treatment.

Wendell Long.

Endometriosis of the Colon and Rectum with Intestinal Obstruction. By Richard B. Cattell. New England Journal of Medicine, Vol. 217, No. 1, P. 9-16, July 1, 1937.

Cattell again emphasizes the fact that endometriosis involving the pelvic organs is quite common and that with increased familiarity of the disease, it is being recognized more frequently.

In a series of 104 patients with endometriosis whom they have treated at the Lahey Clinic, 17 have had involvement of the sigmoid colon or rectum while four showed endometriosis of the appendix. It is upon this group of 17 patients that he bases the discussion in this article. "Any female patient with abnormal menstruation and positive pelvic findings, and with a long standing history of bowel symptoms suggesting an obstruction but without loss of weight must be suspected of having endometriosis. This diagnosis may be further supported by the relation of the obstructive symptoms to menstruation."

He emphasizes the importance of carefully studying the recto-vaginal septum region in such suspects. The differential diagnosis lies largely between carcinoma of the sigmoid and rectum and endometriosis. Sigmoidoscopic examination, if possible, is helpful in that there is rarely gross bleeding or ulceration and that the only positive finding will be that of narrowing of the lumen with congestion of the mucosa. Biopsy has not been practical for the mucosa is not extensively involved and only negative results will be obtained. Barium enema has been of help but diffuse endometrial lesions cannot be differentiated in this way from diverticulitis or spasm. "In the four patients with endometriosis of the sigmoid involving the entire wall, a preoperative diagnosis of malignancy was made in every instance."

Their treatment of cases involving the recto-sigmoid and rectum due to extensive endometriosis in the pelvis has been radical in so far as the uterus, tubes and ovaries were concerned. In the presence of an intestinal obstruction that is not severe it is safe to remove the ovaries without resecting the bowel. It is Cattell's opinion that resection should be carried out in patients where carcinoma cannot be excluded but that frozen section should always be done. He again points out that the results of surgical treatment of endometriosis are, and should be, satisfactory.

Case reports are given to demonstrate the various types of involvement of the recto-sigmoid and rectum.

"The diagnosis is seldom made preoperatively, but this condition should be suspected when the obstruction is long-standing and worse at the time of menstruation, when there are associated pelvic findings, and when the local lesion on examination by the sigmoidoscope and barium enema is not typical of carcinoma of the colon or rectum. The condition can be recognized at operation."

Comment: Endometriosis (adenomyosis, chocolate cysts of Sampson, hemorrhagic pelvic cysts) is not uncommon and the relative rarity of the diagnosis depends largely upon the lack of familiarity with the disease. The instances of endometriosis, carefully proven by microscopic examination, are becoming increasingly frequent.

Positive preoperative diagnosis is exceedingly difficult, unless a positive biopsy of the tissue from the recto-vaginal septum has been possible. Proper diagnosis and thereupon the indicated treatment lies primarily in recognition of the disease at operation. In patients where there is diffuse involvement of the pelvis, recognition is a relatively simple matter. However, the endometrial implants frequently occur in bizarre patterns, with the major involvement lying principally in one or another of the organs within or near the pelvis.

In a great many respects, endometriosis can be likened to neoplastic disease but it is definitely not malignant. It is the only condition of which I know in which there is an uncontrolled extensive growth of cellular tissue and is yet not malignant.

Removal of all ovarian tissue produces a positive cure of the disease and yet conservative surgery, with the salvage of ovarian tissue, may be satisfactorily employed where the endometrial implants are so located that the disease can be entirely removed without sacrifice of all ovarian tissue. As the disease commonly occurs in reasonably y o u n g women, conservative surgery should be employed wherever possible, with the understanding in mind that complete castration may be an early necessity

if the disease is not adequately controlled and removed.

Wendell Long.

Recurrent and Continuing Hyperthyroidism. By Thomas O. Young, Duluth, Minnesota. The American Journal of Surgery, January, 1938.

Tracing the history of "therapeutic excision of the thyroid gland" which was first done by Theodore Kocher in 1878; referring to the important work of Charles H. Mayo and William H. Halstead; and directing particular attention to the value of the "epoch-making treatment of this disease with compound iodine solution" advocated by Plummer in 1921, there is a quotation of statistics which seem to indicate that the percentage of recurrent or continuing hyperthyroidism after operative treatment is unnecessarily too high.

The author believes that "such a large group of so-called recurrences may be due to one of several factors:

"1. Incomplete or insufficient operation due to inexperience on the part of the operator.

"2. Anatomical variations not recognized at the time of operation. These would include aberrant thyroid tissue, pyramidal lobes, superior accessory lobes, retro-tracheal, lateral and inferior extensions, or substernal lobes.

"3. Improper preparation and follow-up of these cases."

In connection with these statements the inference is drawn that during recent years too many operations have been undertaken by those whose knowledge of the pathology, the necessary surgical technique, and of the indispensable collateral information touching the treatment of thyroid disease is defective.

A review of the literature discloses, according to the author, that the question of recurrence or persistence of goiter has been considered almost altogether in connection with diffuse toxic goiter. However, his investigations lead him to believe that there is a large percentage of recurrences in connection with the nodular type of goiter.

It is the belief of the author that, "Next to insufficient surgery, the outstanding neglect is the failure to properly follow-up and study these cases postoperatively. Frequent post-operative examinations with metabolic studies, plus the constant saturation of the gland with iodine over a period of several months, seems to be the best insurance against recurrence.

"It would seem that from the results of this study a warning to the general practitioner or the occasional operator of goiter would not be out of place. It is not unreasonable to assume that if a real thyroidectomy is not done, the number of cases of 'continuing goiter' will be on the increase. The surgeon must be on the lookout for extraneous contiguous anatomical variations. The thyroidectomy must be sufficiently complete to definitely interrupt the course of the disease, and the extreme importance of protection of the recurrent laryngeal nerves and parathyroid glands must be constantly kept in mind."

The following is the summary of the article:

"1. That a much larger percentage of recurrence of goiter than was formerly suspected is found in the group of nodular goiters.

"2. That the number of cases of true recurrences and 'continuing goiter' is on the increase, due to the fact that this disease is being treated more generally by the profession as a whole, and that fewer cases are being handled by surgeons who have made a particular study of this disease.

"3. That an unreasonably large percentage of the cases of diffuse toxic goiter coming to second operation are not recurrent, but are cases of 'continuing goiter,' due chiefly to an inadequate operation plus insufficient post-operative follow-up care."

LeRoy Long.

The Conservative Treatment of Gall Bladder Disease. Harry E. Mock, C. F. G. Brown and Ralph E. Dolkart. Surgery, Gynecology and Obstetrics, January, 1938, Page 79.

Critical survey of present day surgical and medical management of gall bladder disease convinces one that it is inadequate. "From the surgeon's point of view the concensus is that if there is any evidence of pathological changes in the gall bladder, the structure should be immediately removed. From the internist's point of view, the use of the low fat, low cholesterol diet in conjunction with catharsis comprises the average conception of the medical management of gall bladder disease and has remained unchanged as the treatment of choice for the past three or four decades."

The authors do not concur with either of these generally accepted ideas of gall bladder management. Cholecystectomy, which for two decades has been the most popular form of surgical treatment, is not always indicated when surgery is performed; neither has it relieved the symptoms in a reasonable proportion of the cases in which it was used. Cholecystostomy has a more definite place in gall bladder surgery than recent trends would indicate. It seems that most have disregarded the fact that roentgenologically functioning gall bladders can be demonstrated after surgical drainage. They believe that most patients with "low grade right upper quadrant symptoms" can be as completely or more completely relieved by proper medical management than by surgery.

"The inadequacy of the present popular medical treatment accounts for the dominance of surgical treatment. Medical treatment, however, based upon the physiological principles of the biliary tract will relieve symptoms and can restore to normal roentgenological functioning, gall bladders which gave pathological findings on previous examination."

The stated object of this study was to correlate conservative surgical ideas with medical opinion guided by recent advances in the knowledge of the physiology of the biliary tract.

The available data indicates quite definitely that approximately one-third of all patients subjected to biliary tract surgery show little or no improvement after operation. Two conclusions become apparent: first, there is a definite need for a more careful selection of cases for operation; second, adequate medical management is a problem of paramount importance. Apparently the best subjective results are obtained in patients subjected to surgery who give histories of repeated colic, common duct stone or chronic pancreatitis; poorest results in patients in whom cholecystitis existed without cholelithiasis.

Fundamental conditions requiring consideration in the medical and surgical management of the diseased gall bladder are: (1) Stasis in the biliary tract. (2) Infection of the gall bladder. (3) The varying degrees of hepatitis and liver damage accompanying the changes in the gall bladder. (4) Pericholecystitis with adhesions to adjacent viscera. (5) Accompanying pancreatitis, the result of stasis or blocking of the sphincter of Oddi.

Lyon's duodenal drainage therapy was based on the attempt to eliminate or at least palliate bile stasis. This form of treatment has been largely

abandoned because the results are too inconstant. Many cholagogues have been employed. Magnesium sulphate has been used because of its action in relaxing the sphincter of Oddi. It has been proved that magnesium sulphate is not as effective as egg yolks and cream or olive oil and oleic acid. If stasis is to be overcome the most physiological method is to place fat in the duodenum. Also magnesium sulphate creates an irritable bowel with accompanying reflex pylorospasm.

There is no conclusive evidence that there is any increase in cholesterol in the blood of patients with gall stones (provided there is no hypothyroidism or obstructive jaundice). Numerous investigators have showed that the feeding of cholesterol has no relation to either the blood or bile levels.

Gall bladder "disinfectants" such as salicylates and hexamines have been employed to cope with the factors of primary infection and reinfection. These substances irritate the stomach outlet. Besides, it does not appear that infection plays an especially significant part.

The authors have become convinced that many patients (with and without stones) can become relatively symptom free and ultimately have a roentgenologically normal gall bladder under the form of medical management employed by them. However, the gall bladders with calculi did not show the roentgen improvement that was obtained in those without stone.

The medical plan they have adopted as best (after trying several) consists in simultaneously administering: (1) Ketocholanic acids (Ketochol, supplied to them by G. D. Searle and Co., Chicago) to stimulate the flow of hepatic bile; (2) hourly feedings of milk and cream to induce contracting and emptying of the gall bladder at intervals; antispasmodic medication (tincture of belladonna M VIII, elixir of phenobarbital gr. ½, t.i.d.) to diminish the irritability of the gastro-intestinal tract, thereby alleviating stasis due to hypertonicity. In severe cases bed rest was necessary at the time this form of management was started.

The choice of ketocholanic acids for the purpose of stimulating the secretion of bile was based upon experimental work on animals. Their studies indicated that greater choleresis with less toxic manifestations could be obtained using this preparation of bile acids.

In the absence of other indications they believe that there are three groups of gall bladder disease which will respond to physiological medical treatment: (1) The gall bladder dyskinesias; (2) Chronic cholecystitus where no calculi are present; (3) Chronic cholecystitis with large soft calculi, few in number, and with which the patients have no, or very infrequent, colic-like attacks.

They give the following indications (in their order of frequency together with their opinion as to when to operate) for operation in gall bladder disease:—

(1) Cholelithiasis giving definite gall stone colic.

(2) Empyema of the gall bladder.

(3) Obstructed cystic duct with a markedly dilated gall bladder.

(4) Obstructive jaundice.

(5) Subacute or chronic pancreatitis, usually accompany a cholecystitis, provided the "psyiological medical management" has been ineffective.

(6) Cholecystitis, only after medical failure.

(7) Gangrenous gall bladder.

The authors also carefully describe the conditions under which they think that the gall bladder should be drained or removed. They are definitely opposed to routine cholecystectomy. One point strongly emphasized is that when drainage operation is done that many times prolonged drainage for six to 12 weeks is preferable to the usual few days to two weeks.

Conclusions of the authors:—

(1) They believe that the present conceptions of the medical management of gall bladder disease, using low fat, low cholesterol diets in conjunction with saline purgatives have no sound physiological basis.

(2) On basis of studies of 120 patients with chronic gall bladder disease, they have found that the use of hourly feedings of milk and cream to induce contraction and emptying of the gall bladder, ketocholanic acids to stimulate the flow of hepatic bile, and antispasmodic medication to diminish the irritability of the gastro-intestinal tract, effectively relieve symptoms and reduce the incidence of colic in the majority of cases.

(3) Statistical data indicate the persistence of morbidity in patients with gall bladder disease following approximately one-third of all operations upon the biliary tract. In a large number of patients, therefore, an adequate program of medical management would be preferable to surgery.

(4) Removal of the gall bladder does not necessarily bring relief to patients with chronic gall bladder disease, especially if associated with pancreatitis, unless colic and intermittent obstruction has been the predominant clinical picture. In their opinion, routine cholecystectomy is an unwarranted procedure and in many cases surgical drainage would be preferable.

(5) There should be a definite revision of ideas as to what constitutes adequate medical management and what constitutes indications for surgery in patients with chronic gall bladder disease.

LeRoy Downing Long.

EYE, EAR, NOSE AND THROAT

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Chancre of the Upper Eyelid in an Infant Two Months of Age. Alfred Appelbaum, M.D., New York. Archives of Ophthalmology, December, 1937.

The rarities of this case are the site of occurrence and the age of the individual. The author's review of literature on the subject shows Marin reported chancres on the vulva of a child age 11 months; a case of chancre of the upper lip of a two-year-old child; chancre of the gums, reported by Foveau de Courmelles, in an infant; chancre of the upper eyelid, girl age eight years, by Bertin, Christin and Lesenne; chancre of the upper eyelid on a colored man eight weeks after a fight, by Fox and Machlis; simultaneous chancre on the penis and upper eyelid in a Chinese, age 43, by T'ang and Hu; chancre of internal angle of eyelids in a man, age 26, by Gate and Genet.

Bulkley, Muncheimer and Scheuer classified respectively 9,058, 10,265 and 14,590 cases and found that the eyelids and conjunctiva were involved in four per cent of the cases.

The case reported is that of a male infant, age two months. There occurred a swelling on the right upper lid, which increased in size and became an "open sore." The preauricular glands on the affected side were involved. A point of diagnostic importance at this time was that the dark field

examination was negative. The following day another dark field examination was positive for spirochetes. The Wasserman was four pus. The physical examination was otherwise negative.

Treatment was with emulsion of bismuth subsalicylate and mepharsen, intramuscularly, for 15 weeks. At this time the chancre was completely healed but the Wasserman remained the same.

Differentiation of the lesion from gumma was unnecessary because of the age of the patient.

The source of the infection was the moot question. The author states that the incubation period for a chancre may be as long as 90 days; that secondary lesions are infectious only when situated on surfaces of mucous membranes with proper fields for growth. His opinion is that the infection occurred from a secondary lesion in the mother's birth canal at the time the child was born.

The family history showed the father and mother had syphilis, for which they had had some treatment, before the pregnancy occurred. Her Wasserman about midterm was negative. She gave birth to a normal, healthy-appearing infant, weighing seven pounds, five ounces, whose Wasserman from the cord at birth was negative. A checkup three weeks after the birth of this child showed nothing abnormal. A month after the child was born, the mother had a generalized cutaneous eruption, which was diagnosed as a "late secondary."

The child evidently profited from the antisyphilitic treatment of the mother in that he had a negative Wasserman at the time of birth.

Eye Changes in the Management of Hypertensive Toxemia of Pregnancy. Alton V. Hallum, M.D. Atlanta, Georgia. Southern Medical Journal, January, 1938.

According to McCord "study of the eyegrounds by an experienced individual gives the most information as to the course of the various toxemias of pregnancy." Increase in blood pressure usually means a more severe toxemia. Eyeground changes correspond to the severity of hypertension more uniformly than any other single laboratory or clinical sign.

The first change noted is usually a slight generalized constriction or narrowing of a single artery or branch. Arterial constrictions are usually spastic in nature, which vary in degree and amount from day to day. If the blood pressure is lowered the arteries resume their normal caliber (unless the arterial walls have become sclerotic).

The ratio of vein to artery diameter is approximately three to two. In the presence of a severe toxemia and hypertension this ratio may be as high as five or six to one.

Edema of the retina shows first at the upper and lower poles of the disc, spreading along the course of the retinal vessels. The retina appears swollen, fluffy, grayish or milky in color, and tends to envelop the retinal vessels.

Hemorrhages and exudates appear last. They are usually flame-shaped. The posterior third of the fundus is where they are most liable to occur. Cotton-wool exudates have a similar location. Rarely do star-shaped exudates occur in the macular region. If present there is a marked arteriosclerosis or a diffuse retinitis.

Retinal detachment occurs rarely. If present is usually bilateral; reattaches 10 to 14 days after the uterus is emptied. Operative procedures are not necessary.

The author states that if nephritis is allowed to develop during pregnancy it probably means that the mother's life has been shortened several years. To substantiate this he cites Stander's statistics, who found in the follow-up of 800 toxic cases that 35 per cent had chronic nephritis, and that 40 per cent of those with chronic nephritis were dead in five to seven years. One hundred and thirty-two of the 800 mothers died prematurely.

Various phases of retinitis, toxemias of pregnancy and hypertension are discussed. The author's conclusions are:

"During the course of every case of hypertensive toxemia of pregnancy, the advisability of abortion must be kept in mind, and it requires the most discriminative judgment. As Herrick suggests, if nephritis is present abortion must be more seriously considered than if the toxemia is of vascular origin. The obstetrician will find that a study of the eyegrounds, when considered with the other signs and symptoms of toxemia, will be a real aid, probably the most consistently reliable single guide in determining when pregnancy should be terminated. When hypertension or other evidence of toxemia develops during pregnancy a frequent examination of the fundus oculi should be made, and when in spite of conservative medical treatment the eyeground changes continue to become more severe, abortion should be done. This is especially true if severe eye changes appear before the 28th week, for then there is only one chance in five of obtaining a live baby, and severe damage to the mother's cardiovasculorenal system will result if pregnancy is allowed to continue.

We should endeavor to terminate pregnancy before retinitis appears, surely as soon as the first hemorrhage or exudate is seen. A better plan would be routinely to examine the eyes early in pregnancy before toxemia develops, in order to interpret accurately the changes that may appear if toxemia develops later in pregnancy.

Finally, the obstetrician should learn to use the ophthalmoscope well enough to do his own eyeground study. This can be accomplished with a reasonable amount of practice, especially if he at first receives some help from his fellow opthalmologist. The value received is worth the effort required, for the eyegrounds give valuable information in the management of every case of hypertensive toxemia of pregnancy. This information is very available and it can be learned quickly and economically.

The Function of the Tonsils and Their Relation to the Aetiology and Treatment of Nasal Catarrh. Ivor Griffiths, (London). (Lancet, September 25th, 1937, ccxxxiii, 5952.) Abstracted by Douglas Guthrie. Published in the Journal of Laryngology and Otology, December, 1937.

The operation of tonsillectomy has been practised somewhat indiscriminately in many cases. A study of 4,500 children sent to hospital for tonsillectomy showed that in 31 per cent of the cases there were no symptoms, the tonsils having been discovered to be slightly enlarged on routine examination. Apparently the observer had overlooked the fact that physiological enlargement of the tonsil is found between the ages of four and six years and again at puberty, and that temporary enlargement is an accompaniment of the common cold.

There is a widespread notion, unsupported by observation, that tonsillectomy prevents otitis media. Tonsillectomy is also recommended, on insufficient evidence, as a treatment for nasal catarrh. The writer has observed 385 cases in nearly all of which the catarrh was worse after operation than before. He suggests that an explanation for this should be sought in the accessory nasal sinuses. In the 385 cases under his care, nasal sinus disease was pres-

ent, usually in the maxillary sinus, but in the ethmoidal cells in 15 and in the frontal sinus in three children. He conducted a number of experiments on animals and found that Indian ink, introduced into the nasal sinuses, appeared in the tonsil. From this he argues that the tonsillar enlargement may be the result rather than the cause of nasal catarrh. He found that sinusitis was actually commoner in children who had undergone tonsillectomy than in those whose tonsils were intact. He admits that removal of adenoids alone is justified in nasal catarrh, but he regards the removal of tonsils for nasal catarrh as illogical.

Mild cases of nasal catarrh in children may be treated by the instillation of five to 15 per cent argyrol, attention to nutrition and general hygiene, and breathing exercises in the open air. For more severe cases puncture and lavage of the maxillary sinuses is necessary, and this may be performed under local anaesthesia. The results of antrostomy in children are bad, as the opening often closes and an area of scar tissue devoid of ciliated epithelium is created.

Differential Diagnosis Between Thrombosis of the Lateral Sinus and Acute Bacterial Endocarditis. Harry Rosenwasser, M.D., New York. Archives of Otolaryngology, December, 1937.

Five cases are reported from Mount Sinai Hospital which required a differential diagnosis between thrombosis of the lateral sinus and acute bacterial endocarditis.

The prognosis in sinus thrombosis is grave, while acute endocarditis presents a practically hopeless prognosis. Mortality statistics of sinus thrombosis varies in different clinics. The treatment is usually surgical. Although spontaneous cures are reported. Surgery has no place in the treatment of acute bacterial endocarditis.

This paper stresses certain criteria which aid in the differentiation of those cases which may have either one or both conditions above mentioned present.

The cases are presented in detail with postmortem findings, when there was a postmortem done.

There is a discussion of:

1. Bacteriology in the differential diagnosis between thrombosis of the lateral sinus and acute endocarditis.

2. Direct evidences of involvement of the endocardium as aids in the differential diagnosis between thrombosis of the lateral sinus and acute endocarditis.

3. Embolic phenomena in the differential diagnosis between thrombosis of the lateral sinus and acute endocarditis.

4. Changes in the fundi in the differential diagnosis between thrombosis of the lateral sinus and acute endocarditis.

5. Aural Findings and other aids in the Differential Diagnosis between Thrombosis of the Lateral Sinus and Acute Endocarditis.

The author's summary follows:

Certain diagnostic features which aided in making the correct differential diagnosis between thrombosis of the lateral sinus and acute bacterial endocarditis have been stressed. When the Ottenberg differential blood culture indicates large numbers of colonies in the cultures of blood from the jugular vein and a peripheral vein in the arm, it points to endocarditis as the cause, whereas a large number of colonies in one or both jugular veins and many fewer colonies in the arm point to sinus thrombosis. Correlation of the bacteriologic characteristics of the aural discharge and the pus from the mastoid with blood cultures, as described by Libman and Celler, Ottenberg and Friesner, is helpful. Important in the differential diagnosis is the fact that none of the pneumococci with the exception of the type 111 pneumococcus cause sinus thrombosis. The significance of the embolic phenomena should be emphasized again because of their diagnostic importance. Cutaneous embolic lesions, petechiae, have never been observed by me in a case of sinus thrombosis uncomplicated by bacterial endocarditis. Changes of the fundi, varying from slight blurring of the margins of the disks to four diopters of papilledema, occurred in 16 per cent of the cases of sinus thrombosis which my associates and I have observed. It is uncommon in a case of acute endocarditis to note any change in the fundi other than embolic lesions or their manifestations, namely, petechiae, Roth spots or Doherty-Trubeck lesions. The changing character of the cardiac murmurs from day to day is significant of endocardial involvement. A definite history of aural disease, mastoiditis and a tender gland at the angle of the jaw associated with corroborative local evidences of venous involvement are additional factors in determining the correct diagnosis. In conclusion, it must be apparent that these cases of serious borderline conditions require the closest cooperation between the otologist, the internist and the bacteriologist for their proper solution.

PLASTIC SURGERY

Edited by
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Tendoplastic Amputation Through the Femur at the Knee. Further Studies. C. Latimer Callander, M.D., San Francisco, Calif. A.M.A. Journal, January 8, 1938.

The author introduced this type of operation in the Journal 1½ years ago. He has recently completed additional studies and made some refinements in technique.

Synopsis: Briefly, the operation is performed as follows: The anterior flap is fashioned from the soft tissues of the upper part of the leg as far distally as the level of the tibial tuberosity; the posterior flap is longer than the anterior, and it extends well down on the gastrocnemius muscle. The popliteal vessels and nerves are ligated through an amuscular and avascular cleavage plane on the medial aspect of the lower part of the thigh. All the hamstring muscles are severed at their tendinous insertions on the tibia, and the femur is sectioned in the condylar flare just proximal to the adductor tubercle. The patella is dissected from the anterior flap from the joint side, leaving the rectus femoris tendon in the floor of the patellar fossa to act as an end-bearing buffer for the femur. No coapting primary sutures are used, save from four to six skin clips or sutures to hold the flaps roughly in position.

As the edges of the flaps unite, the posterior flap retracts gradually but extensively until the femur occupies the patellar fossa snugly, and the suture line is located well up behind the stump end.

Description of Operation: The patient is placed in the dorsal decubitus position, the knee of the affected extremity is flexed slightly and the leg is elevated a little above horizontal on one or two sandbags. No tourniquet is applied. The surgeon stands on the side opposite the affected extremity and faces the medial aspect of the thigh and knee

to be operated on. He maintains this position throughout the operation, because the essential steps are directed through a medial approach to the popliteal space. The operative work on the lateral aspect of the lower part of the thigh and knee is accomplished readily by rotating the knee medially.

The incisions in the skin outlining the slightly unequal anterior and posterior flaps coincide with the incisions that cover all the deeper soft parts. The incision on the medial aspect of the thigh begins at a point three finger breadths proximal to the most prominent part of the medial femoral condyle and runs horizontally distally in the palpable groove between the vastus medialis and the sartorius muscles. With the knee in partial flexion this groove can be defined readily. After the incision has been deepened to the enveloping or deep fascia of the thigh, the adductor tubercle of the medial femoral condyle, sweeps forward and crosses the anterior surface of the tibia at the anterior tibial tuberosity, the point of insertion of the quadriceps extensor tendon. The thigh then is rotated medially (toward the surgeon). The incision on the lateral aspect of the leg begins at a point three fingerbreadths proximal to the lateral femoral condyle in the palpable groove between the tendon of the tensor fascia latae (iliotibial tract) and the biceps femoral muscles. This incision must overlie and split the tensor facsiae latae tendon in order to avoid the muscle fibers of the biceps. Continuing distally over the lateral epicondyle, the incision extends forward to meet the medial incision at the anterior tibial tuberosity, thus outlining the anterior flap of the amputation.

Corresponding incisions from each femoral epicondyle are carried obliquely posteriorly and inferiorly until they meet on the calf of the leg at a point considerably inferior to the level of the anterior tibial tuberosity, at about the midpoint of the belly of the gastrocnemius muscle. This incision for the posterior flap is deepened to the fascia on the gastrocnemius muscle. Thus are outlined two long amputation flaps, the posterior a little longer than the anterior. Each flap partakes not only of the soft parts of the lower thigh but of a considerable portion of the soft parts of the leg.

Attention is then centered again on the medial aspect of the thigh and knee. The horizontal portion of the medial incision, common to the two flaps (i.e., that portion lying between the vastus medialis and the sartorius muscles) is deepened through the deep fascia of the thigh. Division of this powerful fascial layer, which is the only strong structure in the medial wall of the popliteal fossa at this level, affords ingress to the popliteal space. The left forefinger, now inserted into the superficial popliteal space, by blunt dissection frees the medial hamstring tendons as far as their tibial insertions. At this juncture these tendons are divided in the order named: sartorius, gracilis, semimembranosus and semitendinosus. During this dissection, no fleshy portion of any of the medial hamstring muscles nor any part of the vastus medialis muscle need be exposed, much less severed. The severed hamstring tendons retract at once into the aponeurotic and areolar tissue of the posterior flap and are not dealt with again. Further exposure is gained by severing the tendon of the adductor magnus muscle at its attachment to the adductor tubercle. Free access to the vasculoneural contents of the popliteal space thus is afforded. Moderate flexion of the knee relaxes the popliteal vessels and nerves and favors their manipulation. With a finger now inserted more deeply into the popliteal space and kept close to the posterior surface of the femur, the popliteal artery and vein are withdrawn easily to the level flush with, or even outside of, the incision in the skin. Here they are clamped, ligated and divided as far distally in the popliteal space as possible. The tibial (internal popliteal) and common peroneal nerves are then drawn readily into the wound as one trunk and are anesthetized, ligated and divided. Each of the components of the nerve bundle then is injected with absolute alcohol to prevent formation of neuroma, and the stump is allowed to retract into the proximal recess of the popliteal space. Ligation of these three essential structures low down in the popliteal space prevents unnecessary separation of the posterior flap from the femur and minimizes formation of dead space.

The partly flexed knee then is rotated toward the operator, and the lateral longitudinal incision is deepened through the more posterior fibers of the tensor fasciae latae tendon. This incision is carried inferiorly as far as the insertion of the biceps muscle on the head of the fibula, where the biceps tendon then is severed. At this stage of the operation the popliteal space may be opened widely from side to side, since the essential structures have been divided. Deepening of the incision outlining the posterior flap down to the gastrocnemius aponeurosis, and clearing from it the areoloadipose debris, free the posterior flap. It is advantageous to leave as much as possible of the fibro-areolar tissue of the popliteal space in contact with the femur as far distally as the level of the adductor tubercle in order that there may be but little dead space between the posterior flap and the femur.

The knee then is extended and the incision marking the distal portion of the anterior flap is deepened through the capsule of the knee joint down to the femoral condyles and to the tibia, thereby severing the quadriceps tendon at its insertion into the tibial tuberosity. The anterior flap, containing the patella, is dissected upward off the infrapatellar fat pad and drawn upward on the thigh until the superior synovial recesses of the subquadriceps space are seen. The patella is dissected from the apex to the base from its sesamoid position in the quadriceps tendon, care being taken to preserve the longitudinally disposed tendon of the rectus femoris muscle, which runs over it. Preservation of this tendon adds materially to the end-bearing capacity of the stump after the cut end of the femur is fitted into the socket from which the patella has been removed. The synovia on the anterior flap and on the femur proximal to the condyles is not excised. The femur now is sawed through its cancellous portion just proximal to the adductor tubercle. At this level the shaft of the femur corresponds in size to the patellar socket in the quadriceps tendon. The cut end of the femur is rounded with a bone-cutting forceps and a rasp until no sharp surfaces and no fringes of periosteum remain.

The two large flaps are inspected for small bleeding points. These can be ascertained best by sluicing the surfaces of both flaps with large quantities of warm salt solution. The flushing has the additional advantage of washing away soft tissue or bone debris. Many small bleeding points may require ligation after this procedure. Inspection of the body of the posterior flap shows no muscle fibers. It does show areolo-adipose tissue and the cut ends of the hamstring tendons which already are retracted into their aponeurotic beds and scarcely are visible. The flaps now are allowed to fall loosely together.

The coaptation suturing during the operation is limited to the placing of six or eight clips or sutures at such intervals as to keep the flaps in fair apposition. When the edges of the skin are ap-

proximated, the aponeurotic edges also lie in contact; mere apposition is sufficient to produce firm union. None of the tendons or aponeuroses of the anterior flap are sutured to the corresponding structures of the posterior flap. In this way no structure is under any tension, and the trauma and consequent pressure necroses which result from suture of these deeper structures cannot occur. The flaps appear exceedingly long and extend one or more inches beyond the end of the femur immediately after they are fashioned. To the surgeon accustomed to the routine type of amputation in the lower third of the femur, the flaps appear excessively redundant and clumsy and arouse suspicion that a bulbous stump end and large dead spaces will result. When he notes how wobbly the femur lies between the flaps, he questions whether the end will gain contact with the patellar socket and fuse there. As early as the second or third postoperative day and sometimes even within a few hours after the operation, the reason for leaving these flaps under no tension becomes apparent, as the hamstring muscles, severed only at their distal attachment, contract to the degree that the cutaneous suture line lies posteriorly at about the level of the stump end, and the femur is felt in the patellar fossa.

Convalescent: There is no indication for limiting the patient's activity during the early convalescent period. The routine of having the patient sitting up in bed on the day of the operation and in a wheel chair on the day after the operation reduces the postoperative complications. The short posterior splint used to close dead spaces does not interfere with activity and actually steadies the stump. Freedom from tension at the end of the stump allows free and comparatively painless movement.

Mortality: I have recorded 80 cases of amputation according to this method; 32 are my own and my associates', and the remainder were reported to us from about the country. By far the majority of the patients were over 65 years of age; 11 have died, a mortality of 13 per cent.

Comment: It has been my privilege to do two amputations using the Callandar method. One case for a diabetic gangrene of the foot and another for an extensive crushing injury about the foot. The diabetic case terminated fatally a few months after the operation.

In this city I have seen the operation performed by other men. The technique in this operation should be kept in mind by surgeons doing amputations of the leg. I believe it is a distinct advance in this field of surgery. The operations require at least for me a little more care at operation. The post-operaitve care is simpler.

The author points out that he had had a lower incidence of gas bacillus infection when using the tendoplastic amputation.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M.D., F.A.C.S.
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A Review of Synovectomy, Paul P. Swett, Jr. Bone & Joint Surg. Vol. XX, No. 1, January, 1938.

Synovectomy is an operation for the removal of diseased synovial membrane from a joint which is the seat of an inflammatory reaction. Ordinarily the operation is applicable to any joint of the extremities. Its use has been limited largely to the knee. Its purpose is to remove inflammatory membrane which may add to the damage to the joint, or to increase the efficiency in function of the joint, and influence the patient's general health.

In 1925 Key reported that the synovia could be removed completely and a new membrane develop which was essentially normal in its function. Theoretical considerations upon which the operation was originally applied are:

1. The possibility of promoting the resumption of joint function by the operative removal of the organized inflammatory exudate and of preventing such further joint damage as would result from the continued presence of unabsorbed exudate.

2. The possibility of assisting the local and general recovery of the patient by eliminating the metastatic foci of infection in the joints themselves. This point probably should not be stressed.

3. This was based on the stimulation of the metabolism and the decrease in the suboxidation processes with lowered sugar tolerance which Pemberton had found to accompany arthritis, improvement in which might be expected to follow the restoration of joint function.

Of the three theoretical considerations which originally led up to this operation, the first and third seem to be valid.

The definite indications for synovectomy cannot be given categorically and they should not be dogmatically stated. The original purpose of the operation was directed toward the treatment of chronic atrophic arthritis on the grounds listed above, and the validity of these considerations seem to be substantiated by the author's experience, as well as by the reports of others. A synovial membrane which shows signs of subacute synovitis, that is, local tenderness, pain on motion and stiffness of the joint, and an excess of synovial fluid is the type for which synovectomy is indicated. While synovectomy is most frequently performed on the knee, it may be used with effect on other joints, especially in multiple arthritis.

The author reviews carefully the literature of the past 15 years and the operation seems advisable in the following types of joint disease. That in which there is extensive induration and fibrosis of a capsule, enlargement of the synovial villi, and persistent increase of joint fluid. Such a joint may be caused by:

1. Chronic atrophic arthritis.
2. Traumatic arthritis.
3. Benign tumors.
4. Osteochondromatosis.
5. Syphilitic arthritis.
6. Intermittent hydrarthrosis.
7. Synovitis ossificans.
8. Hypertrophic arthritis.
9. Synovial tuberculosis.
10. Synovitis caused by foreign-body irritation.

Synovectomy is a useful prevention of joint deformity, but it is not considered an operation to correct deformity. It is urged that those interested in treating this type of case make further study of synovectomy in that it is relatively seldom used but is a very valuable procedure in many cases and can bring freedom from pain and increase in joint motion in from 65 to 90 per cent of the cases in which it is used.

Tears of the Supraspinatus Tendon, Tom A. Outland and Walter F. Shepherd, Annals of Surgery, Vol. 107, January, 1938.

The authors point out that Codman has written a wonderful monograph on this injury, but they also have noted that medical literature is rather scarce in listing this injury. It seems that the in-

jury is noticed and found more often when it is looked for. Anatomically it is mentioned that the tendinous insertion of the supraspinatus, together with the infraspinatus, teres major and teres minor, is closely attached to the capsule of the shoulder joint, reinforcing the latter in its upper half. The supraspinatus and infraspinatus both intimately blend and insert into the greater tuberosity. The function is to pull the greater tuberosity under the acromion, fix the humeral head in the glenoid, and abduct the shoulder through the first few degrees.

The cause of ruptured supraspinatus tendon is traumatic in origin. However, there are predisposing factors. The injury occurs in one of two ways—either by the patient falling and abducting his arm in an attempt to break the fall, the rupture occurring during the movement before the shoulder struck the ground, or by a direct blow (or fall) in which the back of the shoulder received the blow, and in which there was forward displacement of the humeral head. Dislocation may be only momentary, followed by spontaneous replacement. The tendon may have been previously weakened by defects left as a result of so-called calcified deposits; necrosis of the tendon or other diffuse pathologic processes similar to arthritis in other joints; or by attrition. Age may be considered a predisposing factor since it is commonly seen around or beyond the fifth decade.

Pathology—The site of the rupture is usually very close to, or at the greater tuberosity.

The following signs are considered of greatest importance:

1. Diminution or loss of the power to abduct.
2. Tenderness over the greater tuberosity.
3. Undue prominence of the greater tuberosity due to the fact that its tendinous covering is absent.
4. Crepitus of a fine nature, palpable over the tuberosity as it moves under the acromion.
5. A negative roentgenogram.

Treatment.—In cases where the injury is incomplete, it is entirely possible to rest the patient in abduction for a few weeks until the crepitus disappears. In the series of cases of the authors they have treated some cases this way and have obtained very satisfactory results. However, they feel that open operation would have speeded the recovery. For the complete tear, operative repair is the only logical treatment. The retracted tendon ends are approximated to the greater tuberosity and held with heavy silk mattress sutures. It may be necessary to make drill holes in the tuberosity in order to obtain firm fixation. The arm is immobilized with an axillary pad, sling and bandage. Physical therapy is begun as soon as the wound is healed and dry.

Summary.—"This lesion is considered common. It occurs most frequently in laboring men over 40. The lesion presents a characteristic history with well defined physical findings. Continued shoulder disability following any trauma should be considered a general indication of rupture. Complete separation of the tendon demands surgical repair."

(The above articles were abstracted by:
Howard B. Shorbe, M.D.)

UROLOGY

Edited by D. W. Branham, M. D.
514 Medical Arts Building, Oklahoma City

Transurethral Diverticulotomy. Roger W. Barnes, M.D., Russell T. Bergman, Los Angeles, California. Urologic and Cutaneous Review, January, 1937.

The authors present a new surgical procedure for the treatment of diverticulum of the bladder. Radical removal of a bladder diverticulum is a rather hazardous procedure especially in the age group in which it is most often found. They felt that by improving the drainage from these sacs to the bladder proper through enlarging the orifice communicating between the diverticulum and bladder, relief to the patient could be obtained. By means of the regular McCarthy electrotone or Collings knife they excised by the high frequency cutting current the inferior portion of the orifice. Because this complication is associated with prostatic hypertrophy, an electro resection of the bladder neck can be performed before this is done and usually at one sitting.

Thirty cases had such an operation performed and by preoperative and post-operative study they concluded the results were very satisfactory. Diverticuli that failed to drain before operation showed almost complete emptying following the procedure. No complications were encountered in performing the operation and they state that if it is carefully done the risk is negligible.

Comment: This is an interesting article detailing a relatively simple procedure for a rather frequent complication of prostatism. I have found, however, that many times a diverticulum of the bladder often shows marked improvement following relief of the badder neck obstruction. It seems to me that rather than risk the hazard of perforating a bladder wall by such a procedure it would be better judgment to wait and see what prostatic resection accomplishes in improving bladder drainage.

Sexual Debility and Marriage. Winfield Scott Pugh, New York, N. Y. Urologic and Cutaneous Review, January, 1937.

The author describes his paper as a brief resume of the most common bars to domestic felicity. In his own inimitable style he informally discusses several phases of the problem of sexual incompatibility. He prefaces his remark with the statement that nothing contributes to the mutual well being of the male and female as a well regulated sexual life.

From his experience of many years he has selected examples of several common conditions responsible for much sexual disability in marriage. He considers premature ejaculation not only the most common bar to a satisfactory sex life, but a rather prevalant condition in men in general (60 per cent). By premature ejaculation he defines as an inability to prevent ejaculation within five minutes after insertion of the penis in the vagina. The etiological factor responsible for this disturbance is masturbation in which the individual has conditioned himself by autoeroticism to reach the climax as quickly as possible. He states premature ejaculation often follows the practice of withdrawal which many men do for the purpose of contraception. The latter condition results in a chain of symptoms due to the excess congestion induced by this habit. He has often found premature ejaculation may result from infectious conditions of the prostate and vesicles.

His treatment of such conditions is first advising a period of sexual rest following an examination to determine whether organic pathology is present. Prostatitis and seminal vesiculitis are treated by appropriate therapeutic measures, and last but not least, the re-education of the patient, in the correct method of performing sexual intercourse, in order that not only he but his partner may obtain greatest benefit from the act. He details the cor-

rect technique for intercourse which he states many men are deficient, despite an egotistical pride to the contrary.

INTERNAL MEDICINE

Edited by C. E. Bradley, M.D., Medical Arts Building, Tulsa; Hugh Jeter, M.D., 1200 North Walker, Oklahoma City

HUGH JETER, M.D., F.A.C.P., A.S.C.P.

Hematological Observations on Bone Marrow Obtained by Sternal Puncture. Peter Vogel, Lowell A. Erf and Nathan Rosenthal. From the Medical Department and the Laboratories of the Mt. Sinai Hospital, New York, N. Y. Vol. 7, No. 6, November, 1937. American Journal of Clinical Pathology.

The authors in this paper, their second on the hematological observations on bone marrow obtained by sternal puncture, present the findings of the marrow (aspirated by Arinkin's technique) in 246 cases. They find the material obtained by the simple puncture method to be nearly identical with those made by biopsy. However, they point out the following disadvantages encountered with the simple puncture method: (1) there is a loss of histological structure of the marrow and the distribution of megakaryocytes and fat cells is altered. (2) Evaluation of the degree of hyperplasia or hypoplasia is at times difficult. (3) Rarely the sternal puncture is unsuccessful due to thickening of the sternal plate or marrow fibrosis. (4) There is an admixture of blood when large amounts are withdrawn. This is overcome, however, by withdrawing only 0.1 to 0.2 ccs. of marrow fluid. The authors feel that simplicity of this technique outweighs the disadvantages and state that the procedure is adaptable for ward, clinic, home or office use and no special permission is required for a biopsy. Repeated punctures may be readily and easily done.

The authors discuss the cellular findings in various diseases and classify them as to (a) sternal puncture of diagnostic importance, (b) sternal puncture of confirmatory value and (c) sternal punctures of little or no aid. Gaucher's disease, myeloma, leishmaniasis, malaria, leukemia and in certain cases of carcinoma where there is general bone metastasis are considered by the authors to be diseases in which the sternal puncture is of diagnostic importance. Leukemia, leukopenic infectious monocytosis, agranulocytosis, pernicious anemia, spure, hemolytic jaundice, polycythemia and apastic anemia are diseases in which the sternal puncture is of confirmatory value. Agranulocytosis is felt by the author to be a most interesting disease from the standpoint of blood and marrow findings and they believe that much information will be gained from marrow studies during the disease process.

The authors of this paper conclude that the aspiration of the sternal marrow by the simple puncture technique is of diagnostic, prognostic and corroborative value in certain diseases.

The Etiology and Pathology of Agranulocytic Angina. Present-Day Findings and Hypotheses. Thomas Fitz-Hugh, Jr., Philadelphia, Pa. Vol. 7, No. 6, November, 1937. American Journal of Clinical Pathology.

The author outlines a brief history of the status of agranulocytic angina since its original description 15 years ago. In addition he outlines by means of a graphic chart the chief components of the present day view of the etiology and pathologic physiology of the disorder. The author believes that the disease is a distinct entity and that it does not involve the red cells or platelets or the coagulation factors of the blood. He reports a case that recovered and shows a very interesting graph with a tabulation of the white blood count, total granulocytes and total myelocytes during the course of the disease.

According to the author the pathological findings are (1) maturation arrest of the myeloid series of leucocytes at the myeloblast-myelocyte level; (2) arrest or partial non-migration into the blood stream of the other leucocytes; (3) maintenance of normal red cell and platelet structure and function; (4) oropharyngeal and other mucosal and cutaneous ulceration and necrosis with complete or nearly complete absence of polymorphonuclear infiltration; (5) invasion by "opportunist bacteria" with various types of ensuing sepsis (pneumonia, septicemia, osteomyelitis of the jaw, perforation of the nasal septum, nephritis, intestinal ulceration and necrosis, phlegmonous angina with neighborhood adenitis, endarteritis, acute splenic tumor, acute hepatitis with or without jaundice and finally necrosis of the bone marrow, lymph nodes, adrenals, etc.); (6) recovery initiated by myelocytic hyperplasia of the bone marrow, a myelocyte crisis in the peripheral blood (with extreme left-shift in the neutrophile formula which here is a happy omen), sometimes a monocytosis as well, and then a return of normal polymorphonuclear and other white cells to the circulation and tissues with ensuing tissue recovery (provided some septic or necrotic process has not already gone beyond repair).

Dr. Fitz-Hugh discusses the therapy and compares his mortality rate to others. He concludes that the earlier the diagnosis is established and the earlier the offending drug is stopped, the better the outlook. Furthermore, the author predicts that the benzol-ring sulphonamid compounds may sooner or later be added to this group of drugs which may cause the syndrome of agranulocytic angina. However, he feels that their theoretical danger is outweighed by their value in combating the hemolytic streptococcus.

Observations on the One Hour Two Dose Dextrose Tolerance Test. J. Shirley Sweeney, J. J. Muirhead and Louie E. Allday, Dallas, Texas. American Journal of Clinical Pathology. Vol. 7, No. 6, November, 1937.

The authors report a study of the effect of extreme and abnormal antecedent diets on the one-hour, two-dose dextrose tolerance test of Exton and Rose. This test consists of the administration of two doses of glucose 30 minutes apart, on the assumption that the first dose activates the insulin glycogen mechanism. The authors believe that this one-hour two-dose test has been thoroughly proved and that it eliminates many abnormal tolerance curves. They feel that the simplicity of this procedure will make it a more dependable means of differentiating suspected and renal diabetes from true diabetes. They emphasize the fact that the test is less time consuming and less disturbing to the patient.

This study of the one-hour two-dose dextrose tolerance test was made to determine the effects of extremely abnormal antecedent diets. Normal healthy young adults were used in the study. Some of the subjects abstained from all food for 48 hours, some ate only fats, some consumed only protein, while others received only sugars preceding the tolerance test. The blood sugar determinations were done by Folin-Wu technique.

Interesting graphs with tables are shown with

the average figures for each group. In another table and graph the figures for the controls are shown. The controls consisted of those subjects eating normally preceding the test.

The authors conclude from this study that the antecedent diet has a very marked effect on the tolerance test. Furthermore, they find from this study that the graphic curves were typically those of a diabetic in the individuals who had fasted and who had been on high fat diets. In addition they found that the average curve of each group in general was considerably lower at the end of two hours than it was following the single dose tolerance test. They conclude that this is due to the two dose of dextrose ingested at 30 minute intervals. The authors conclude that the one-hour two-dose test will show definite changes in individuals who have been on ordinary diets preceding the test and it is their opinion that the test will serve as a valuable differential diagnostic procedure.

The New Orleans Graduate Medical Assembly

The second annual New Orleans Graduate Medical Assembly will be held at the Roosevelt Hotel in New Orleans on March 7, 8, 9 and 10, 1938.

For over 100 years, New Orleans has been recognized as one of the nation's greatest medical centers. During that century it has been growing progressively greater in importance. Being the second port of the United States its geographic situation has made it a crossroad of the shipping of the western hemisphere. As a consequence, while its general health is second to none in the United States, it was but a natural sequence that an opportunity would be afforded to see a variety of disease conditions only possible in a port of its size. An additional reason has been the fact that Charity Hospital has always been a mecca to which have come sufferers as well as students of medicine. Those who were ill have realized that in this medical center the facilities for relief would be found. Physicians and students in a like manner have always known it as a center of medical knowledge with unsurpassed clinical material.

For 104 years New Orleans has been the home of the School of Medicine of Tulane University, whose graduates have taken their places in the medical profession all over the world. Many of them have made medical history by their scientific achievements and many have become distinguished teachers in medical schools in New Orleans and elsewhere.

Just a few years ago there came into existence the Louisiana State University Medical Center, which has made amazing progress in these few years so that New Orleans now has two well organized, equipped and staffed medical schools.

The success of the New Orleans Graduate Medical Assembly at its initial meeting last year exceeded the most optimistic expectations of its sponsors. This year 18 physicians of national and international reputation, representing the principal branches of medicine, have accepted invitations to be the guest speakers. They will be as follows:

Dr. Warren T. Vaughan, Richmond, allergy.
Dr. Udo J. Wile, Ann Arbor, dermatology.
Dr. Charles Mazer, Philadelphia, endocrinology.
Dr. Burril B. Crohn, New York City, gastroenterology.
Dr. Norman F. Miller, Ann Arbor, gynecology.
Dr. Richard P. Strong, Boston, medicine.
Dr. Sydney R. Miller, Baltimore, medicine.
Dr. Temple S. Fay, Baltimore, neurology.
Dr. William C. Danforth, Chicago, obstetrics
Dr. Algernon B. Reese, New York City, ophthalmology.
Dr. Philip D. Wilson, New York City, orthopedics.
Dr. Frank R. Spencer, Denver, otolaryngology.
Dr. Fred W. Stewart, New York City, pathology.
Dr. A. Graeme Mitchell, Cincinnati, pediatrics.
Dr. Frederick M. Hodges, Richmond, radiology.
Dr. Arthur E. Hertzler, Halstead, Kans., surgery.
Dr. Harvey B. Stone, Baltimore, surgery.
Dr. William E. Lower, Cleveland, urology.

A cordial invitation is extended to the physicians of the state of Oklahoma to attend the assembly.

Report of Licenses Granted to Practice Medicine

NAME	Year of Birth	Place of Birth	School of Graduation	Year of Graduation	Permanent or Present Address
Brown, Forest Reed	1913	Hannah, Okla.	Oklahoma Univ.	1936	Ancon, Panama C. Z.
Kennedy, Louis James	1910	Purcell, Okla.	Oklahoma Univ.	1936	St. Louis, Mo.
Swanson, Homer S.	1910	Kansas City, Mo.	Oklahoma Univ.	1936	Nashville, Tenn.
Olson, Virginia Claire (F.)	1913	Guthrie, Okla.	Oklahoma Univ.	1936	Des Moines, Iowa
Prosser, Moorman P.	1910	.....	Oklahoma Univ.	1935	Norman, Okla.
Tupper, Walter Richard	1908	Springfield, Mo.	Oklahoma Univ.	1936	Cleveland, Ohio
Cameron, Paul Broomhall	1907	St. Louis, Mo.	University Kansas	1930	Tulsa, Okla.
Coots, William Norvel (col.)	1906	Richmond, Va.	Meharry Medical	1936	Tulsa, Okla.
Felts, Clifton	1906	Marion, Ill.	University Illinois	1932	Seminole, Okla.
Finley, Gravelly E. (col.)	1909	....., Ark.	Meharry Medical	1935	Oklahoma City, Okla.
Forry, Willis Wendell	1905	Muskogee, Okla.	Univ. Tennessee	1935	Bixby, Okla.
Gaede, Eva Marie (F.)	1908	Weatherford, Okla.	Medical Evangelist	1937	Weatherford, Okla.
Heiss, John Ernest	1884	Morrison, Ill.	Layola University	1916	Orlando, Okla.
Johnson, Obbo William	1894	Dubuque, Iowa	University Kansas	1927	Kansas City, Mo.
Lytle, William Rowland	1911	Fredericktown, Mo.	Univ. Tennessee	1935	Oklahoma City, Okla.
Markland, James David	1894	Kokomo, Ind.	Univ. Tennessee	1936	Tulsa, Okla.
Mahon, George Savage	1908	Humboldt, Tenn.	Univ. Tennessee	1932	Ada, Okla.
Melvin, James Henry	1908	Winona, Miss.	Univ. Tennessee	1933	Oklahoma City, Okla.
Morton, William Ambrose (col.)	1908	Richmond, Va.	Meharry Medical	1936	Tulsa, Okla.
Pigford, Charles Alfred	1907	Mobile, Ala.	Univ. Tennessee	1932	Tulsa, Okla.
Pittman, Cole Dilling	1908	Sweatman, Miss.	Univ. Tennessee	1933	Tulsa, Okla.
Stough, Austin Robert	1910	Geary, Okla.	Univ. Tennessee	1936	Oklahoma City, Okla.
Walker, John Hicks	1904	Atlanta, Ga.	Harvard Medical	1930	Muskogee, Okla.
Waters, Gregory Roy	1901	Constantinople, Tur.	Layola University	1932	Wright City, Okla.
Wright, Jack McLellan	1912	Canton, Miss.	L.S.U. Med. Center	1936	New Orleans, La.
Yandell, Hays Richmond	1907	Seattle, Wash.	Harvard Medical	1934	Ponca City, Okla.
Young, Clarence Calhoun	1895	Nashville, Tenn.	Univ. Tennessee	1932	Shawnee, Okla.
Baker, Roscoe Conkling	1882	Clarksdale, Mo.	Ensworth Medical	1904	Enid, Okla.
Ketchersid, John W.	1878	Martin, Ga.	Vanderbilt Medical	1898	Mannsville, Okla.
Lowther, Robert Dow	1868	Hollywood, Ark.	Ky. School of Med.	1893	Norman, Okla.
Sneison, Seaborn C. (col.)	1867	Andersonville, Ga.	Howard Medical	1890	Oklahoma City, Okla.
Welch, A. J.	1853	Columbus, Ohio	Starling Medical	1881	McAlester, Okla.
Wolff, Llewellyn Gilmer	1868	Shawnee Mound, Mo.	Missouri Medical	1899	Okarche, Okla.
Thompson, Wildridge Clark, Jr.	1903	Union Springs, Ala.	John Hopkins	1930	Stillwater, Okla.
Bradfield, Eldon O.	1912	Elk City, Okla.	Oklahoma Univ.	1936	Temple, Texas
Sizemore, Oliver Paul	1909	....., Mo.	University Arkansas	1934	DeQueen, Ark.